Unrooting the Issue

Conflict Resolution of Urban River Restoration, Kikuhama

Urban River Restoration in Kikuhama:
Memory, Community and Landscape Change of the Takase River

An Interactive Qualifying Project submitted to
the faculty of Worcester Polytechnic Institute in partial fulfillment of
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Abstract

Our area of research takes place in Kikuhama, Kyoto, a residential neighborhood that has a long and complex history. The region is currently under development and is slowly being transformed by the government and other developers, starting with the restoration of the Takase River canal. With the government initiative to restore the canal, unwanted changes of the overall aesthetic of the region occurred which led to conflict between the local residents and the municipality of Kyoto. The goal of our project is to better understand the Takase River canal restoration plan and the local residents' feelings towards the project as well as the impacts it can have on the neighborhood in the long run. We obtained data about the local residents and vegetation along the canal from various methods such as observation, interviews, and surveys. From the data we obtained, our team was able to draw conclusions on what the locals felt towards the restoration plan and what they hoped to see from the restoration. Our team was also able to establish and understand trends that are currently happening in this neighborhood and make recommendations on what we believe is the best approach moving forwards to preserve the current characteristic and aesthetic of this region.

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Executive Summary

Urban restoration can result in conflict from locals and the organization leading the restoration. Conflicts can arise from a plethora of reasons including: an unwelcome change in scenery, the possibility for gentrification, the attraction of more people to an area, and a general disruption to locals' daily life. Many researchers have studied the effects of urban restoration, the impact on nearby communities, and identified the need for more inclusive and equitable decision-making processes in these types of projects. Therefore, it is important to involve the local community in the planning process for urban restoration projects, which will ultimately affect their daily life.

This research paper examines the Takase River canal restoration project in Kyoto, Japan, and its potential side-effects on the local community of Kikuhama. The project, which began in 2010, had already seen the restoration in more upstream regions of the canal. To gain a better understanding of the restoration and its potential impact on the community of Kikuhama, our team utilized a variety of data collection methods. These included satellite imagery and Google Street View observations, which allowed us to track the progress of the restoration project over time. This in turn allowed us to gain a better understanding of the changes that occurred in the already restored regions of the canal. We also conducted on-site observations to learn about the current use of the canal. Furthermore, we conducted surveys and interviews with local residents which provided insight into the locals' views on the restoration project, including their likes and dislikes, and their hopes for the future of this restoration. Additionally, our team also mapped the plants and trees along the canal, performed a tree risk assessment, and conducted a canal damage assessment. These assessments provided valuable information on the environmental impact of the project and how it can be managed effectively. Based on the data collected, we were able to provide recommendations on how to proceed with the restoration project, taking into account the concerns and perspectives of the local community.

Throughout our data collection phase, we discovered a trend of Japanese locals exhibiting an unwillingness to go against authority. We believe this is due to the strict hierarchy that is present within so many Japanese organizations, and the high value placed on obedience within Japanese culture. This emphasis on obedience and subordination to authority can be dated back to the country's feudal history, where loyalty to the emperor, or lord, was expected and held in high regard. Today we can still see evidence of this, Japanese workers are expected to follow their bosses demands and instructions without question. This can, and has, lead to instances where communities have had difficulty communicating with authorities expressing autonomy. We believe this is the case with some aspects of this river restoration.

There were numerous instances throughout this project where locals would immediately switch their viewpoint on a topic depending on if the mention of authority was present in the question. For example, when we asked how the locals would feel if the trees were cut down, the majority responded that they would be "sad" however, when we asked how they would feel about trees that needed to be cut for the sake of the restoration, and the majority responded that they would be okay with this. We believe the discrepancy between these two answers is due to the Japanese cultural emphasis on the subordination to authority. Once there was mention of the restoration, which was carried out by the government, the locals then changed their answer to agree with their authority figures. This required us to be skeptical

about our analysis for the answers we received through surveys and interviews.

From our data, we noticed a general trend of movements towards gentrification throughout the upstream regions which resulted from the government's effort to develop the region. Aside from the government, the Yamauchi Foundation also takes part in the revitalization of Kikuhama. The Foundation hopes to do this through their acquisition of lands and building structures for many locals as well as for community building through restaurants and other public spaces. However, we believe the nature of this project will stimulate the economy and bring in tourists. This will result in the displacement of residents in the area. For example, from our satellite data we noticed some public recreational areas become hotel buildings. From our street view data, we saw the disappearance of many trees along the canal, decreasing the biodiversity in the area. The remaining trees are carefully placed and chosen for their visual appeal rather than their fruit bearing capabilities, creating an unnatural look. Furthermore, movements towards gentrification were already viewed in the yet-to-be-restored section of the canal. Our on-site observations and historical Google Street View data showed an influx of tourists in the area. They also demonstrated an increase in the number of guest houses and hotels in the area, indicating a shift towards gentrification. Furthermore, we also identified ways which the locals use the canal including watering potted plants, walking animals, and the general maintenance of cleanliness of the area, in regard to fruit droppings and leaf litter.

From our survey and interview responses, it became clear to us that the general consensus was that the locals do not completely approve of the current plan for this project. The respondents expressed a preference for the wilder, more natural appearance of the canal and a dislike for the changes that have occurred in the upstream section. This included the decrease in biodiversity and the seemingly surgically placed trees. The locals also reported a distaste for the increased presence of passerby and tourists in the area, commenting on their loudness and lack of manners. The local community also commented on how they are unhappy with the amount of plant litter and have to carry the burden of cleaning it up themselves every morning.

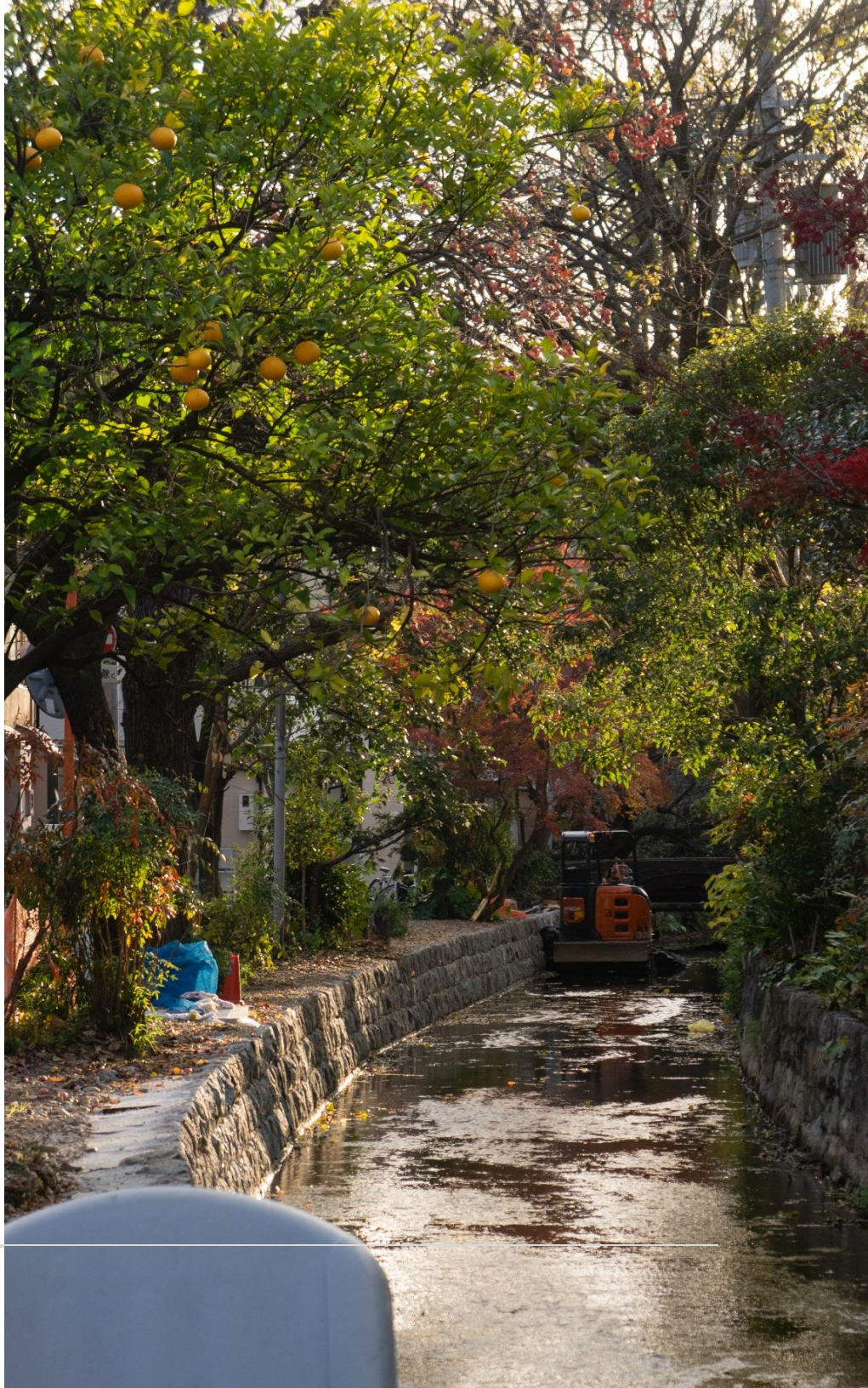
The municipality engineers marked trees along the canal which will be saved when the restoration is fully carried out. From our observations and tree mapping data we determined that, throughout the Kikuhama region, only a small number of plants and trees were to be saved, which is a cause for concern. The number of plants and trees to be saved is significantly lower than the actual number of unique species present in the area. This will result in a significant decrease in biodiversity and a change in the natural scenery of the area. Throughout our tree risk and canal damage assessments, we have indicated that many more plants and trees could be saved without compromising the safety around the canal.

Based on the data we collected, it is evident that the current plan for the restoration does not align with the preferences and concerns of the local community. We can further see this by the government's constant reassessment of the trees in the area and how they can be saved. This indicated that the government lacks the understanding of the community's desire to preserve the residential character of the area. From our past research, it has been shown that similar restoration projects have attracted more tourists, leading to gentrification and the displacement of residents. Therefore, it is imperative for the municipality engineers to take a more locally focused approach to the restoration project, ensuring that the needs and concerns of this community are taken into account. By doing so, the municipality

engineers can help preserve the unique character and history of this area while also addressing damages to the canal wall.

If the municipality engineers take a more community-focused approach to the problem, they can restore it in a manner that best satisfies the deep-rooted community which has lived here for generations. It is imperative that this location exhibits a different aesthetic and feel than that of the upstream section to mark a residential from a commercial region of this canal. We also recommend that any trees which need to be cut down, be replaced with the same species of tree in order to maintain the current biodiversity. Finally, we recommend a more technological approach to preservation, a 3D map of the area before the restoration. A comprehensive map, with species data and stories, will allow residents to reminisce in the way the canal used to look.

In conclusion, our data collection efforts have provided valuable insights into the Takase River canal restoration project and its potential effects on the local community of Kikuhama. Through observations, surveys, and interviews, we have determined that the restoration project should be carried out differently in the Kikuhama region than in the upstream areas, in order to address the concerns and preferences of the local residents. Our findings also indicate that the previous restoration efforts have attracted more tourists to the area, which is not necessarily desired by the residents of Kikuhama. Additionally, our tree mapping and various assessments have shown that there is no need to cut down such a large number of trees in order to continue the restoration project. Based on these findings, we recommend that the government take a more conservative approach to the restoration. This entails cutting down fewer trees and preserving the current natural, wild appearance. Overall, we believe that these recommendations will allow for a successful restoration for the stakeholders involved.



Chapter 1: Introduction

Communities around the world face conflicts with local governments on their implementation and approach to urban projects. Problems often arise when stakeholders have different opinions on how and what needs to be done to best benefit the local residents and the project at hand. In many cases, people's perception of what is culturally important within a community will vary depending on how involved the individual is and what they believe is important to them. Some people do not want any change, which can pose a great challenge for project planners. In urban areas, it is becoming increasingly difficult to maintain cultural and green areas because of increasing urbanization of cities (Standish, et.al., 2013).

The study by Standish, et. al., focuses on four different approaches to ecological restoration: "conserve and restore nature at the fringes, restore remnant patches of urban nature, manage novel ecosystems and garden with iconic species—in terms of their potential to contribute to promoting human-nature interactions in urban landscapes" (2013, pg. 1213). With the four methods described, the study concluded that none were favored more than each other in terms of community approval for the final project. Factors such as urban infrastructure and community values, which vary from city to city, make it so no particular method can be regarded as the best; this demonstrates why it is difficult to perform urban ecological restorations. Nonetheless, preserving the current ecology in the area is an effective beginning to any restoration project and should be carried out with any revitalization project.

Most cities are built around water as it was an important mode of transportation of goods throughout history. As cities become increasingly urbanized, rivers and other bodies of water become

neglected because they are no longer in use. Nevertheless, there has been a recent emergence of restoration projects for such bodies of water all around the world (Purcell, 2002). The reasons and goals of these restorations vary between projects, but they share some common elements. These often include improving the visual appearance of the area around the water, and fixing the possible damages done to the area surrounding it. This was reflected in El Cerrito, California, where an urban creek restoration was conducted in a park.

Figure 1: Current Restoration in Kikuhama Region

The city decided to restore a small stretch of 70 meters that had been previously turned into a culvert. The main motivation behind it being the increasing costs of maintaining it. The local council managed to complete the restoration, and in the process multiple willow trees were added to the area. The reception was mostly positive, with 84% of residents (38 out of 45 respondents) stating that they enjoyed living by the creek and 87% (33 out of 38 respondents) stating that they enjoyed the creek for its aesthetic/natural setting after the restoration (Purcell, 2002). This case study demonstrates that urban river restorations can be successful, and that the satisfaction of local residents can increase as a result.

In Kyoto, Japan, the government currently has a large project underway involving cultural preservation (Takase River Restoration Project, 2021). The Takase River canal was built as a part of the transport system of goods from Osaka to Kyoto in the early 1600s, but it has slowly fallen into disrepair over the years after it was retired in 1920. As a result, in 2010, the Kyoto municipality undertook a large project to restore the Takase River. The municipality engineers believed that the overgrown tree roots were one of the leading causes of the damages along the sidewalls of the canal. The risk posed by this damage extends beyond its walls into the nearby buildings. In order to address these problems, there are plans to cut down a majority of trees along the canal in order to fix the walls. Many residents raised concerns over the proposed plan, stating that they did not want to see the trees removed. As a result of this conflict, the government hired three gardening companies to reassess if the vegetation could be saved, leading to a revised plan. However, even the revised plan does not seem to ease the residents' concerns.

Urban restoration can be beneficial but also could pose potential drawbacks to the locals. Some of the benefits, depending on the

stakeholder, could include increased property value as well as increased people traffic in the area. A negative aspect of restoration could include increased taxes, and increased traffic could result in noise pollution in previously quiet residential zones. Through conducting extensive research on case studies, we have a better understanding of the many positive and negative effects the project could create. The results of the project are difficult to predict, however, the Takase River canal restoration has already been completed farther upstream from Kikuhama which allowed us to analyze some of the effects of the project and make predictions on the repercussions this project will have on the area.

In order to obtain a greater understanding of the problems at hand, we focused on learning about the community's concerns with the restoration project. We did this through observations, surveys, and interviews. We used these various methods to get first person accounts and learn about more concerns that we wouldn't think of. This information is important because in many cases around the world, culture-led restoration tends to be beneficial for the people and the area of the restoration (Ferilli, 2016). They also stated that it takes a large period of time to determine the success of a project once it is over, so obtaining a strong understanding of the cultural basis will be important to the community years down the line. The Takase River restoration project has already been completed in some parts of the river farther upstream from where our project was focused on, so we were able to study some of the effects of the restoration via satellite imagery.

Another problem was identifying if any trees pose a threat to the surrounding infrastructure. We hoped that assessing the possible problems that the trees could cause would allow us to make suggestions on which trees don't need to be removed. Our team

utilized multiple methods in order to document the trees in the area and their possible threats including species and location mapping, a risk assessment, and a canal damage map. Using these methods, we were able to compare our findings to the current project plans and make suggestions on which trees could be saved while still carrying out the restoration of the canal walls.

Overall, there are a lot of residents that all seem to have varying opinions on the project. Some of the residents argue that they should not remove a significant amount of vegetation, as it carries sentimental value, and removing it poses possible environmental drawbacks. There are residents whose families planted trees, so that their future generations can enjoy the fruit, which are now being taken care of by the current residents. For them, these trees hold sentimental value that must not be removed by the restoration. However, not all residents care for the majority of the trees that are already there and are more worried about the risk posed to their houses and businesses. Many people would want to preserve their childhood memories as well as important parts of their identity, but it is important to make sure there are no severe risks to the buildings that could cause problems for everyone.

The municipality of Kyoto is working on this restoration project in order to conserve the scenery of the river and prevent any water leakage in the future (Takase River Restoration Project, 2021). We utilized information from the municipal engineers about the causes and extent of the damage to the canal as well as the health problems facing the trees as a basis of our project. Our project then expands upon this information with the data obtained from our research of other urban restoration projects in areas around the world. The surveys and interviews are integral to the effectiveness of this study because peoples' thoughts about the plan in general need to be known. Interviews with the residents also give further insight on the cultural aspects of the canal and give more personal information about the uses and general thoughts about the area of Kikuhama. After all of our data was analyzed, we made suggestions that would help to preserve the culture, vegetation, and address any concerns about the state of the canal for the long term.

Chapter 2: Background

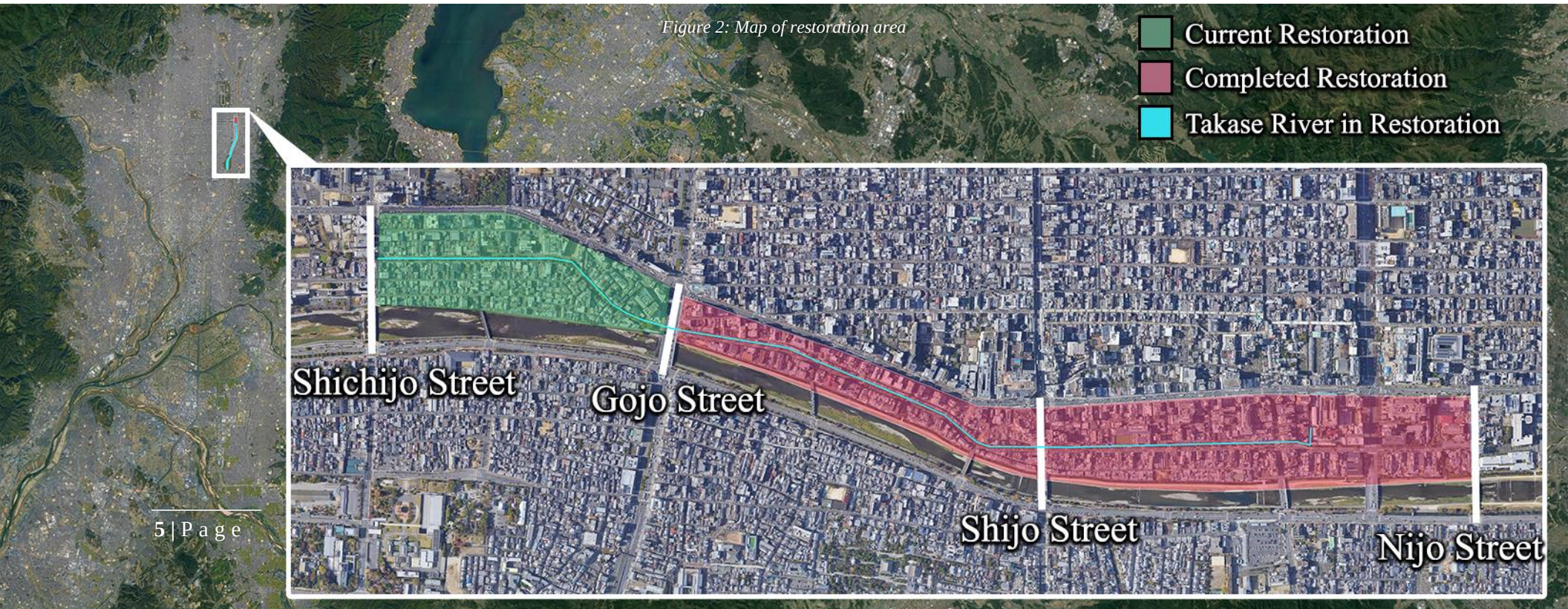
2.1.1 The Big Problem

Restoration projects and city improvement works are being carried out globally, aiming to improve people's lives; however, many of these initiatives fail to incorporate the community's voice and their needs into the decision-making process. Low community involvement has led to many project failures and led to unintentional gentrification of residential neighborhoods. Even when there is a high participation rate within the community, project planners find it challenging to incorporate what the people want into their projects as these initiatives are often planned before consulting with the locals to identify the community's needs (Maptoinnaire, 2021). It is not until conflict arises between the locals and the project planner that the planning process starts taking a turn. This is the case for the Urban River restoration project that is currently taking place in the Kikuhama neighborhood in

Kyoto, Japan. The project goal was to restore the Takase River canal walls. It was first implemented in the upstream area of the canal between Nijo and Gojo street back in 2010 (figure 2). It was not until recently that the city government of Kyoto resumed the project, which takes place between Gojo and Shichijo street (figure 2). Due to the differences of interests between the residents and the government, unexpected conflict arose regarding what should be done to the vegetation along the canal.

It is critical that improvement efforts address the community needs and the culture of the area. Depending on the project's scope, minor or significant impacts can be made on the local community. A seemingly harmless project can drastically change the residents' way

Figure 2: Map of restoration area



of life if not properly executed and can potentially push them out of their home. Understanding that not all restoration projects are suitable for people is essential. Improvement plans that identify the stakeholders involved, their needs, and how the project can incorporate them into its final implementation, hold the key to the project's success (Rajablu, 2014).

2.1.2 The Local Issue

The first stage in any practical urban planning project is to identify and grasp the problem in its entirety. However, recognizing and comprehending technical difficulties is insufficient since social impacts must also be considered. Every city improvement project has its own goal: to enhance the current state of the location while also creating value for the residents. Waterway restoration projects exemplify how, when done effectively, municipal improvement activities may benefit the people. Urban waterways no longer serve the same role they once did; however, they should not be replaced as they are pre-existing infrastructures, part of the more significant metropolis. The restoration of these waterways is required since aging canals can have an influence on the area surrounding them, leading to worse problems later on if not properly addressed. In the case of the Takase River restoration, large trees and vegetation along the canal are damaging the current sidewalls and pose a threat to the houses within close proximity to them. This is the primary reason the city government is undertaking the restoration project, intended to reinforce the structure and thus improve the lives of the citizens.

Part of the original restoration plan was to remove and replace the majority of the trees alongside the canal that posed a threat to the community. However, this plan was unsuccessful as part of the community spoke up against it, claiming that vegetation is essential to the local community and their culture. Due to this unexpected conflict, adjustments to the original plan were made to better satisfy the community's needs. From the project description, provided by the sponsor, we can infer that the original plan proposed for the restoration did not consult the locals, nor consider their needs. Like many other projects carried out by the government, successful implementation of the technical aspect of the project is prioritized over the impacts it can have on the residents. This has led to the current disagreement between the locals and engineers. With the implementation of the project, the neighborhood is slowly being transformed. The approach that the municipality of Kyoto is currently taking to restore the canal in Kikuhama is similar to what they did in the upstream area, a commercial region (figure 2). Without proper precautions and understanding of the area as well as the needs of the local, the municipality can unintentionally gentrify the area as the project will likely turn this residential neighborhood into a tourist attraction site in the future.

2.2.1 History of Kyoto:

In 794 CE, the area of Japan that is now known as modern-day Kyoto became the capital of Japan, and it would remain so until 1868. The capital was modeled as an urban political and social center, constructed to support the demands, both cultural and economic, of the imperial system (Prough, 2022). The location of the capital was chosen for its potential, sitting on the river basins of both the Kamo and Katsura rivers, and surrounded by mountains on the west, north, and east (Segal, 2017). Being the imperial capital, Kyoto became the home to several temples, festivals, and cultural traditions. As a result of this there was always interest from others to visit the region.

During the Edo period (1603-1867 CE), travel to Kyoto became easier with the development of a safer and more structured road system,

kickstarting an increase in domestic tourism that remains to this day. Nevertheless, by the time Tokyo had become the new capital of Japan, some regions of Kyoto had fallen into ill repair (Prough, 2022).

In the Meiji period (1868-1912 CE), with the absence of the imperial household, Kyoto pushed for modernization in an attempt to rebuild and revive the city. Multiple infrastructure projects were instituted such as the new Kyoto station that served to connect the city to Tokyo's railway line, facilitating travel (Prough, 2022). Today, Kyoto is a modern metropolis that attracts multiple domestic and international tourists to its many religious institutions such as Buddhist temples and Shinto shrines.

Not only is it a renowned destination for both domestic and international tourists, but with over "1600 Buddhist temples, more than 400 Shinto shrines, and 17 UNESCO World Heritage sites", Kyoto is one of the most culturally rich cities in the world (Prough, 2022). This is a result of the previously discussed, millennia-spanning history of the city as Japan's capital. Even though Tokyo might now have this title, to many Kyoto still remains the heart and soul of Japan.

2.2.2 Rise of Tourism in Japan

Japan's popularity as a tourist destination is on the rise, with the country experiencing one of the fastest rise in tourists in the world, with an average increase of 16.4% a year since 2010. In 2017, 28.7 million international tourists traveled to Japan which was an increase of 19.3% from 2016. This is not only due to external factors but also internal efforts by Japan to increase tourism (Prough, 2022).

Japan has put in place both the *Cool Japan* and the *Tourism Nation* strategies which aim to market Japanese culture on a global scale. These strategies push for an increase in creative content exports at a time that its automobile and electronics industries face a decline (Prough, 2022). Since then, there have been other initiatives such as Japan easing tourist visa issuance (Kato & Takizawa, 2022). In spite of that, this change has not been entirely positive.

A study by Haruka Kato and Atsushi Takizawa aimed to understand if the population decline in Kyoto City was a result of the rise in tourism accommodations. They concluded that there was a complex relationship between the aging population of Kyoto and the rise of tourism that led to the gentrification of the region. The rise in tourism accommodations seems to encourage longtime residents to move away but population decline might also be opening the way to tourism gentrification. As older people pass away, their houses get sold to real estate developers, allowing them to initiate the process of gentrification in the area (Kato & Takizawa, 2022).

Figure 3:Street of Kikuhama Neighborhood

2.3.1 History of Kikuhama:

The Kikuhama neighborhood, otherwise known as Gojo Rakuen, is the focus of our project. Although the region is central, located near many of Kyoto's tourist hot spots such as Pontocho, its history kept real-estate developers away for many years.

In the past, this area was a prominent yûkaku - a legal red-light district - with many brothels and prostitutes. The remnants of this past can still be seen via the architecture of the region, as many houses have tall second floor windows that were once used by prostitutes. The neighborhood was also under the control of the yakuza for many years. Traces of their control can be seen through places such as Ume-yu, a local bathhouse that welcomes clients with tattoos, which is the exception and not the norm in Japan. The criminal activity in the area was put to an end in 2017, when law enforcement infiltrated the local Yakuza compound and dissolved its operation.

Since then, the community began moving away from said past, with many of the old brothels being demolished to make place for buildings uncharacteristic of the neighborhood. With it came a newfound interest from real estate developers to leverage the location of the neighborhood. Many hotels and guesthouses have been inaugurated since 2017, demonstrating the potential of the region.

Nevertheless, although the value of the area has improved, the residents still suffer the consequences of Kikuhama's past. Their voices are not given much importance by the government and other citizens of Kyoto look down upon the area.

2.3.2 History of the Takase River

The Takase River, more appropriately known as the Takase River canal, is a man-made canal that was constructed from 1608 to 1611. It used to connect Kyoto's city center to the southern Fushimi Ward, running a total length of 10 km (Toranosuke, 2010). Today the canal still begins at Nijō-Kiyamachi and meets the Uji River at the Fushimi port, but the south half of the river is no longer connected to the Kamo River (Takase River, n.d.).

The canal construction was spearheaded and largely funded by Suminokura Ryôi, one of the most prominent and wealthy merchants of the area at the time (Toranosuke, 2010). From 1611 until 1929 the canal served to transport goods, such as rice and sake, from Kyoto's city center to the port of Fushimi (Takase River, 2021). The need for such a canal existed since the Imperial capital had no port of its own.

Nowadays the canal no longer serves to transport goods, instead it now plays a more aesthetic role in Kyoto. It is known for its historic and scenic appearance by day, and in the night, it is better known for its nightlife. Throughout its length there are sections filled with cafes, restaurants, and bars (Takase River, 2021).

Figure 4: Waterproof sheets being placed behind rocks

2.3.3.1 What is the Condition of the River Today

It has been known that the canal leaks water through the rocks since the original construction finished. After 300 years of use, age and damage to the canal bed have worsened these leaks. In 2010, a local Kyoto project aimed at repairing such leaks by relaying stones over a series of waterproof sheets. Work on the canal began in 2010 and around 1.8 km of the canal was finished by 2020 (Murakami, 2022). The rest of the canal was not restored due to budget limitations, but in 2022 a foundation led by an heir of Nintendo founder Fusajiro Yamauchi committed to donating 530 million yen - roughly 3.7 million dollars - to finish the repairs (Murakami, 2022).

2.3.3.2 Restoration Efforts

As stated above, in 2010, the local government recognized the Takase River as a valuable waterside space to the landscape of downtown Kyoto. After being recognized as such, the government initiated a restoration project to secure the water volume along the canal - that had decreased due to the aforementioned damage to the revetment and water leakage from aging (Takase River Restoration Project, 2021).

The repercussions of these issues are not only aesthetic with low water volumes but also structural. In the Kikuhama region, the government has expressed concerns over water damage to the foundation of nearby houses. There are fears that the water leakage from the canal may erode the sandy geomorphology on which the homes are built on.

Work on the canal that began in 2010 was halted during the Covid-19 pandemic in 2020 (Murakami, 2022). Below you can see a section of the canal, in the downstream area of Oike-dori, before and after the restoration.

Figure 5: Oike-dori before repairs

Figure 6: Oike-dori after repairs

2.3.3.3 Issues with Current Restoration (Gojo - Shichijo)

The official government website about the project lists three things under the goals of the restoration:

- Conserve the Takase River and its scenery in the future by repairing the bank protection to secure the water volume.
- Construction taking into consideration the roadside trees that play an important role in the scenery of the Takase River.
- Creation of an attractive waterfront in the surrounding area, including cooperation with other businesses and communities along the river.

The issues in the Kikuhama region, from Gojo street to Shichijo street, are a result of the more subjective objectives in this list. The government does not describe what constitutes a tree that "play[s] an important role in the scenery", and the phrase "attractive waterfront" is extremely subjective. As a result of this, these two points have created conflict between the community and the government.

The initial plans of the restoration project suggested that a majority of trees and vegetation would be removed from the area so as to repair the leaks. This decision received backlash from locals as many of them either grew up with these trees or had ancestors who planted them in the first place. As a result, the project was temporarily halted until a new plan was created. Now the government is trying to protect more of the local vegetation but most of the trees will still be cut in the process.

2.4.1 Problem in Kyoto/Stakeholders

The particular problem between the stakeholders is that each has their own set of priorities and objectives. Meaning that they often do not see or understand the repercussions that would occur from their decisions about the restoration. Different people within particular stakeholder groups also have different opinions and needs which makes it hard to try and please every person.

2.4.2 Local Community

In the local areas, there are community led organizations called chônaikai. They are local community citizens that reside in the area which they are responsible for. These responsibilities include dealing with simpler local organizing aspects, such as planning any events, as well as evacuation routes in case of an emergency. The local government uses the chônaikai to gain a better understanding of the community, so that if there are any projects or construction the community won't retaliate and cause an uproar. Using the relationships between the chônaikai and the higher institutions, a new way of urban improvement focused on small areas rather than whole cities was created (Hein, 2008). This new method of improving small areas in the city is called machizukuri.

More recently, the term machizukuri defines "community groups [that] have organized in cities around the country in attempts to improve their communities, both by preventing unwanted changes and by promoting desired changes" (Sorensen, 2009). The machizukuri voices what the community would like to preserve and improve the local public spaces in a collective manner. The machizukuri in the Kikuhama area is very important for the Takase River canal restoration project since the public space surrounds the river. The residents and businesses also have varying opinions about how they feel about the project which the machizukuri is able to decipher and deliver a verdict to the Kyoto municipality on how the community would like to move forward with the project.

The residents are the origin of the complaints and concerns about the current restoration process. The concerns originated with some of the residents about the possibility of losing the precious memories and landscape in the local area of Kikuhama. However, some of the locals don't have a connection to the trees and are in favor of the restoration because they are concerned with trees or branches falling. Their other concerns are the possible environmental drawbacks of removing the vegetation, and possible high costs of the restoration process. The residents could also be affected by the overgrowing of tree roots which could potentially damage the nearby houses.

Another stakeholder in the community are the local businesses, many of which are located very close to the canal. Although it is not certain if the tree roots will affect the nearby buildings, it will be important to research to make the residents more informed. Time is also a factor to take into consideration for these businesses because the road next to the canal is very small and any vehicles needed for construction would take up the whole road which could prevent any customers from reaching the businesses. Other stakeholders in the local community that could get affected by the road closures are the commuters that need to walk those streets, including students and workers.

2.4.3 Yamauchi Foundation

A key player of this conflict is the Yamauchi Foundation, which is the founding family for Nintendo. As previously mentioned, the total cost of the restoration process was a concern for the local community, and due to the COVID-19 pandemic the economy had been in a strong decline. The Yamauchi Foundation invested 530 million yen towards

the restoration process, as a part of a broader plan to restore the whole area of Kikuhama.

Their revitalization plan includes building structures around the area for many locals to use such as artists as well as for community building through restaurants. As of May 2022, the foundation has purchased twelve sites, including land and buildings for revitalization some that were previously used for the yakuza. As of when our project was completed, the only part of their plan to be finished was the opening of the Marufukuro hotel, which was renovated at a former Nintendo building.

Figure 7: Marufukuro hotel

Their project aims to create a new narrative for the area and to focus on taking the local peoples' voices for how they want the area to be. Over the next 30 years, they plan on not just revitalizing the area to specifically target the tourists, but they want to make sure that current and future residents will enjoy living in the area.

2.4.4 Local Government

The Kyoto municipality is the original group that started this project. The plans are to cut down and remove any plants that cause problems, with some vegetation marked to be saved with ribbons, and to address leaks in the canal through means such as extending the wall inwards as well as putting up waterproof prevention sheets and restacking the rocks. In general, the municipality seemed to focus on the most basic problem, the canal leaking, but wasn't too worried about how the local community uses the canal (Civil Engineering Bureau, 2022). The potential effects that removing too many plants could have on the overall environment of the city could lead to the government having to spend more money to do environmental impact surveys, but so far no plans have been made for these surveys at the time of our project. The municipality was originally supposed to be funding the process completely which would raise the taxes of the area in order to help to fund this project.

2.4.5 Tourists

During the COVID-19 pandemic, tourism was stopped for a long period of time. However, the restrictions on tourism have been lowered which means that tourists are another stakeholder for this project.

Cultural preservation is mostly important for the local community, but it can be leveraged as a marketing tactic by local businesses to drive

tourism in the area. The tourists are also very interested in the local scenery, especially on a local urban river that has as much greenery as the Takase River canal. Many passersby stop on the many bridges along the canal to take pictures of the river and scenery. The tourists also utilize the seating options at some of the restaurants to have a view of the river and sit along the river. The area has recently become more accessible to tourists with the increasing numbers of guest houses and hotels around the area. Since the tourists have shown interest in the area they are affected by this project.

2.4.6 Engineers

The engineers are also a stakeholder in this project. They are responsible for proposing and carrying out the plans for the restoration. The engineers propose these plans in community meetings, where they are able to take community feedback, and make any necessary changes. Due to some conflict with the residents, they hired three companies to determine any trees that could be saved that weren't originally. Because of this, the engineers are holding another meeting to go over the revised plan, thus delaying the process of the restoration.

2.5.1 Benefits of Trees to Urban Areas

City governments are constantly looking to expand and urbanize new areas, especially now in the 21st century. Yet this new trend is causing significant adverse impacts on the environment (Tan et al., 2021). This process is characterized by decreasing green areas in exchange of impervious structures such as rooftops, roads, driveways, and parking spaces (Mullaney et al., 2015). The rise of such impervious structures alongside increasing populations and higher greenhouse gas emissions damages urban ecosystems and the overall environmental quality. This is evident through the urban heat island effect, air pollution, and alterations to hydrological systems. Kyoto, as the city that experiences the most severe summer temperatures in Japan, is particularly vulnerable to these issues (Tan et al., 2021).

2.5.2.1 Roles of Trees in the Urban Environment

If we were to look thirty years in the past, trees played a non-functional, mostly aesthetic, role in most cities. Nevertheless, with the recent efforts to mitigate climate change, many cities have started to look at trees as a solution instead of urban ornaments. There is an ever-increasing amount of research that supports the notion that trees can offer several ecosystem services to urban environments.

Ecosystem services can be seen as the natural and essential life-support functions provided by nature (Tan et al., 2021). Analyzing trees from this perspective highlights their benefits such as: Reducing stormwater runoff, improving air quality, sequestering carbon, providing shade, and ameliorating the urban heat-island effect (Mullaney et al., 2015). Other ecological benefits include enhancing biodiversity by providing food and habitat for urban fauna (Mullaney et al., 2015). However, trees can also provide urban services to communities such as crime reduction, increased community interactions, and increasing property values. Because of such benefits it is helpful to categorize them into three groups: Environmental, economic, and social.

2.5.2.2 Environmental Benefits

One of the most well-known environmental benefits of trees involve carbon storage and sequestration. Through the process of photosynthesis, trees will absorb carbon dioxide and release oxygen as a byproduct. Most of this carbon is then converted into structural parts of the tree, sequestering it and preventing it from returning into

the atmosphere. Many people associate this process with breathing, but trees also act much like a liver, serving to filter and minimize pollutants in the air. Via tiny hairs on plant leaves, small particles - up to 10 micrometers across - are trapped, preventing them from entering human lungs (Traverso, 2020). These trapped particles include ozone, nitrogen oxides, sulfur oxides, sulfur dioxides, carbon monoxide, carbon dioxide. All of which are known to cause adverse effects to human health (Mullaney et al., 2015).

Trees also serve to mitigate the effects of the increased impervious surface area and soil compaction that result from urbanization. They do so by intercepting, absorbing, and storing water with leaves and branches, effectively decreasing the amount of water that reaches the ground. Depending on tree species, the amount of intercepted water can range from 2.65 kL of water per year, for mature deciduous trees, to 15.41 kL per year for evergreen trees (Mullaney et al., 2015). This prevents large volumes of stormwater runoff and flooding during heavy rains, as well as the damages associated with such. Something that is particularly relevant to Japan given its climate conditions and typhoons.

2.5.2.3 Social Benefits

Incorporating trees in urban areas can potentially bring a myriad of social benefits to residents and commuters. Studies have shown a correlation between greenspaces in urban environments and how compelled residents are to engage amongst themselves and conduct physical activities. It was also concluded that a reduction in crime, fear of crime, and stress are associated with areas with high street tree density (Mullaney et al., 2015).

Studies indicate that areas with more vegetation "can have approximately 50% lower crime levels than areas with low levels of vegetation" and that by increasing the tree cover by 10%, a 12% decrease in crime can be observed in a given region. The current hypothesis is that areas with dense and well-maintained vegetation are associated with a greater sense of community care by residents (Mullaney et al., 2015). Nonetheless, these are not the only ways trees offer social benefits.

Another way that residents are impacted by trees is their potential to decrease noise pollution. They act both as a physical and visual barrier which serves to reduce noise and increase privacy, two things that are valued by Japanese culture.

2.5.2.4 Economic Benefits

Some economic benefits from trees can be easily quantified while others cannot. One of the benefits that are easier to quantify is the relationship between increased property value and the amount of tree cover. An example of this is the house prices in Perth, Australia, where houses near a large density of trees were priced higher by an average of 20 to 30% (Mullaney et al., 2015). Trees are also beneficial to local business, as research indicates that tree density not only increases business income by 20%, but that consumers are willing to spend an additional 9% extra on an item if it is sold in a treescape area. Nevertheless, these trends are highly susceptible to the region being studied (Mullaney et al., 2015).

This susceptibility also applies to some of the benefits that were previously discussed. Depending on the region, the value trees offer when it comes to human health impacts, energy savings, air pollutant removal, and avoiding storm water runoff vary drastically. These become even harder to quantify when you take into account that they all depend on the physical characteristics of each individual tree (Mullaney et al., 2015). Nevertheless, later in this section, we will

discuss how their value can be quantified and analyze a case study where such evaluation was conducted in Kyoto.

2.5.3.1 Issues Associated with Trees in an Urban Environment

Some of the most common reported issues caused by trees include falling branches, leaf litter, tree debris and infrastructure damage (Mullaney et al., 2015). The most expensive and hard to repair issue being root damage to streets, sidewalks, and households. Root growth can disrupt road surfaces by cracking or uplifting them, which creates the need for additional pavement maintenance, repair, and interventions on the tree itself (Alani & Lantini, 2019).

Figure 8: Example of leaf litter in Kikuhama

The conditions in which urban trees are grown are the main cause of the damage to the nearby structures. Trees require porous soil in order to access water and other necessary nutrients, something that is not possible in an urban environment. This is because the soil needs to be compacted to handle the structural loads created by civilian and vehicular traffic. The dense soil compaction alongside the impermeable surfaces creates the perfect environment for shallow and destructive root growth (Lucke & Beecham, 2019).

Figure 9: Example of root damage to the canal

Destructive root development is caused by the use of impermeable surfaces and dense soil compaction. These conditions prevent water from penetrating low below the ground which in turn encourage the roots to grow and look for water elsewhere. Studies have shown that surfaces like sidewalks can promote the development of roots, which in turn lead to root damage. Since the impermeable surfaces cool down faster than the soil beneath them at nighttime, condensation forms on the underside of the surface. Since this is the most reliable and abundant source of water for urban trees, it leads to sidewalk damage (Lucke & Beecham, 2019).

2.5.3.2 Specific Conditions and Issues Associated with Trees along the Takase River

The problems created by the trees along Takase River are very common to other waterfront treescapes and urban environments. These being leaf and fruit litter, sidewalk and pavement damage, and interference with power lines. Nevertheless, most of these problems are nuisances but do not warrant the removal of senior trees. Especially when it takes a tree 80 years on average to reach its fifth and final stage of its development, when it is characterized by flat-topped canopies of heavy limbs (*Tree Life Stages*, n.d.). This is because the most pressing issue is happening underground where it cannot be easily observed. However, before discussing this problem, it is imperative to understand under what conditions these trees are growing in.

The treescape along the canal grows in a narrow planting strip that is directly connected to the canal walls at some sections of the river. As a result, trees have been damaging the canal walls with their roots. This problem is compounded by the aging canal leading to water leaks. Today the canal is mostly dried up, with a low volume of water, due to the leaks.

The severity of this problem is evident via the project's online website, which lists "repairing the bank protection to secure the water volume" as the first of its main objectives. The other common problems are not even mentioned, and the protection of the roadside trees ranks second in the main objectives list.

2.5.4 Quantifying Tree Value

In contrast to the economic benefits of trees, the economic disadvantages are very easy to quantify which creates opposition to planting and maintaining the trees. This is a problem that the i-Tree software attempts to tackle as it "can help strengthen forest management and advocacy efforts by quantifying forest structure and the environmental benefits that trees provide" (*About i-Tree*, 2006). The software uses several dimensions, the species of tree, and the location of where it is found to estimate its monetary value.

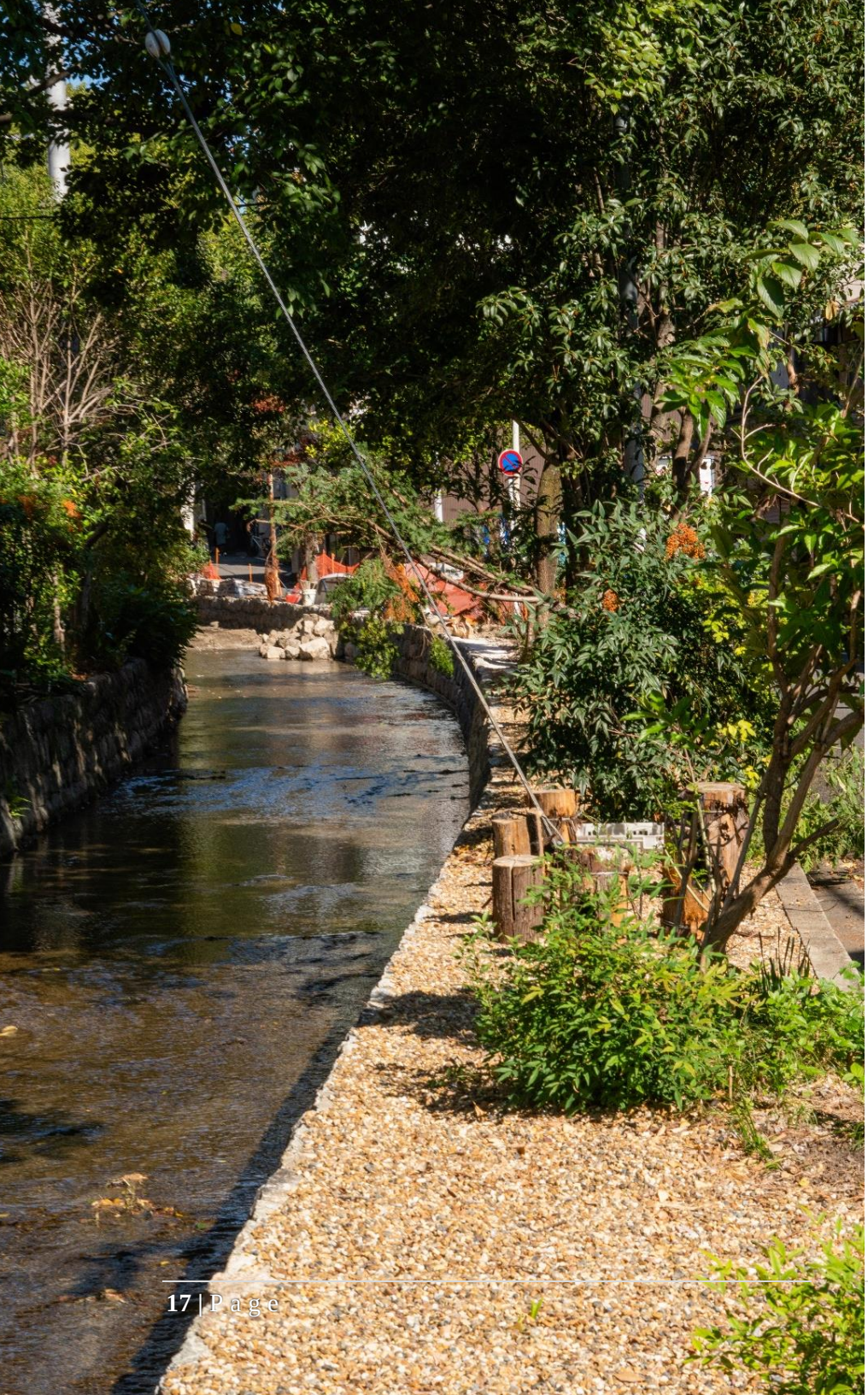
In 2018, researchers leveraged this software and modified some of its algorithms to better suit the vegetation found in Kyoto. Their goal was to estimate the ecosystem services provided by the street trees of Kyoto. To do so they analyzed a total of 1230 street trees that were located in an area of 48.85 km^2. The software took into consideration the value of carbon storage and sequestration, air pollution removal, money saved on human health effects associated with air pollution removal, avoided stormwater runoff damage, and the heating and cooling energy savings in houses (Tan et al., 2021).

After analyzing and synthesizing the results, the researchers created the following table:

Table 1: Monetary value of predominant street tree species in Kyoto City

Species	Total Tree Numbers	Avg. Tree Height (m)	Avg. DBH (cm)	Avg. Leaf Area(m^2)	$/Tree
G. biloba	588	8.55	26.10	74.34	43.74
A. buergerianum	174	8.76	29.21	111.12	58.73
Z. serrata	100	11.94	35.47	255.66	123.21
L. tulipifera	76	8.41	19.08	116.03	33.64
C. florida	59	4.90	10.34	54.28	11.78
P. ×acerifolia	51	9.74	30.14	159.36	65.88
P. × yedoensis	42	7.94	49.26	174.17	225.32
P. jamasakura	27	6.30	20.59	110.66	43.31
S. babylonica	15	8.91	34.08	109.38	80.10

The conclusion was that a tree saves on average 58.07 USD per year, and that all trees in the study saved a total of 71,434.21 USD per year (Tan et al., 2021). Demonstrating that there are financial benefits to protecting the treescape of a region.



2.5.5 Possible Solutions

A 2019 study by T. Lucke and S. Beecham was conducted to evaluate the effectiveness of permeable pavements in preventing shallow root development. Their research concluded that the growth of street tree roots can in fact be influenced by using a permeable pavement above a sufficiently deep gravel base course layer. Their results indicated that there was no visible dislodgement or root damage on permeable pavements with a 300 mm deep gravel base course layer, while there was visible damage and potential hazard with asphaltic concrete control pavement (Lucke & Beecham, 2019). An excavation 4.5 years after the experiment began showed that the 300 mm deep gravel base course layer encouraged the roots to develop downward.

2.6.1 Impact on Community and Culture

Social initiatives may have a tremendous influence on the local community's everyday life as well as the culture, ecology, and economics of the area. To reduce project failure rates, it is critical that all of these consequences be considered prior to project execution. Project planners must consider the community and culture of the region while developing a unique set of checklists of potential repercussions. This is necessary to ensure that the project completely fulfills all of the people's requirements and that any potential repercussions on the people, as well as the culture and environment of the region, are identified (Vanclay, 2002). Canal restoration, for example, may provide significant benefits to both the people and the city. However, these sorts of initiatives can have underlying negative effects that are frequently overlooked, potentially leading to a much larger problem. Canal restoration, if effective, may give the city a fresh face and generate more public recreational places that can be used for a variety of purposes. However, if not carried out appropriately,

restoration operations can result in water pollution and harm to the river environment, as well as the natural landscape in the surrounding area.

2.6.2 Economical Impact

City improvement projects are aimed to improve its aesthetic and create value for the residents and the area. Restoration of waterways, such as the canal, in urban cities is one of the many improvement projects aiming to fulfill these goals. Many urban canals in city settings no longer have the same purpose they used to have. However, restoration of these waterways can still have an impact on the area surrounding them. Given that canals are built for drainage and transportation purposes, many cities and dense urban residential areas are often built surrounding them.

Projects carried out to improve the livability of the area surrounding these waterways have shown an increase in property prices after the project is implemented (Polykov, 2022). An instance of this would be the increase in property prices close to the waterway restoration project done in Singapore. Through the use of the hedonic pricing method, a technique to "estimate the capitalized amenity of public open space" (Polykov, 2022), the value of residential property within close proximity of the river, canal, or waterway was estimated. Compared the estimated price to data found on local housing prices from previous years, the study found that closer proximity to canals positively impacts housing prices (Polykov, 2022). The same economic impact can also be expected for the Takase River restoration project. In the past decade, changes to the neighborhood are apparent with about three new hotels being built along the canal. With the new, improved canal on the way, the neighborhood will likely gain popularity, attracting more people, hence improving the local businesses and the value of property in the area.

2.6.3 Cultural Impact

Aside from the economic impact of projects on an area, the cultural impact must be looked into and evaluated. Urbanization connected with social programs might have an influence on local cultural traditions, however, it is sometimes unavoidable while undertaking restoration efforts. Changes in the scenery and the introduction of new commodities to the region might cause people to change their behavior to fit the newly modernized city, resulting in people gradually forgetting the old way of life and the local customs. These changes, however, mainly affect the younger generation. The outcome of a project in places where most of the population is of the elder generation might be significantly different. Given that the primary stakeholders are elderly, they tend to be less responsive to change; hence the project must consider local culture for a successful outcome. It is critical for city planners to integrate culture as a key factor in the planning process.

Looking at the Takase River canal project, major changes to the Kikuhama residential neighborhood might significantly influence individuals who live there. According to Hako, tourism gentrification has been an issue in Kyoto for years. It has had direct consequences for local inhabitants, with the increasing number of guest houses causing "many long-standing traditional communities [to be destroyed]" (2020). Although this problem is yet to be a prominent issue in the Kikuhama district, it is one that must not be disregarded to maintain the culture and community of this neighborhood. The region is an old traditional residential district, but in recent years, the number of guest houses and hotels in this area has increased, with more tourists visiting and staying in establishments along the canal.

Kyoto municipality wants to change the look of Kikuhama and make it part of the bigger Kyoto. The government and developers have taken action to transform the neighborhood, aiming to change the old image of this area in the eyes of the city residents and move away from its dark past. This includes its previous association with the Yakuza and its earlier history of being a red-light district. However, much of the architecture in the area cannot be replaced as they are traditional Japanese-style houses and brothel-style buildings, which are part of the culture of this place that needs to be preserved. Ultimately, the government's goal is not to gentrify the area but instead to change the place's look. Nevertheless, with the continuation of canal restoration and the Yamauchi Foundation's neighborhood development initiative in this region, the Kikuhama neighborhood will likely draw more and more visitors in the foreseeable future, potentially affecting the culture and customs of this location.

2.6.4.1 Gentrification and People Displacement

The general definition of gentrification according to Merriam-Webster: "a process in which a poor area (as of a city) experiences an influx of middle-class or wealthy people who renovate and rebuild homes and businesses, and which often results in an increase in property values and the displacement of earlier, usually poorer residents" (Gentrification, 2022). We then slightly augmented this definition for the purpose of this paper. The version of gentrification we use happens over the course of decades, whereas the aforementioned definition happens quicker. This change can be seen to occur in the Kikuhama neighborhood based on certain laws that have been put in place by Japanese officials to facilitate this change over the course of generations. One of such laws that encourages such a change is the tax placed on houses that are to be inherited by the younger family generation.

2.6.4.2 Inheritance Tax

When transferring assets, such as a house, to the heir, there is an inheritance tax imposed on that asset. This tax can range from 10% to 50% of the asset value (Japan Inheritance Tax & Its Effects on Expatriates, 2022). Natives are allowed a reduction in total yen to this tax based on the amount of legal heirs inheriting the asset. This exclusion amount is equal to 30 million JPY [Japanese Yen] + (6 million JPY x (legal number of heirs)). The exclusion amount is deducted from the taxable amount of the asset that is being inherited (Nakada, 2017). Due to this, many grandparents who want their heirs

to take over a house, legally adopt their grandchildren to reduce the amount their children have to pay for tax. For example, if there was only one heir in the family the inheritance tax would be extraordinarily high, therefore, many locals would rather sell the house than have their children inherit it.

$$\text{Inheritance Tax} = (\text{House Value} \times \text{Taxable Percentage}) - 30M + (6M \times \text{Legal \# of Heirs})$$

2.6.4.3 Locals Age and Population Decline

Table 2: Japanese Age Distribution 2020

Age Distribution (C 2020)	
0-9 years	98,880
10-19 years	121,336
20-29 years	168,127
30-39 years	152,843
40-49 years	200,129
50-59 years	183,958
60-69 years	155,506
70-79 years	184,941
80-89 years	102,482
90+ years	26,255

Based on a 2020 census, the age of the locals in the Kyoto prefecture is largely above 40 years old (Kyōto (Kyōto, Japan) - Population Statistics, Charts, Map, Location, Weather and Web Information, n.d.). In addition, a large portion of the locals here are in the later stages of their life (Table 2).

In addition to this, Japan currently has a higher death rate, 11.59 deaths/1000 population, than birth rate, 6.95 births/1000 population. According to a recent research article on the population rates and trends of Japan, ever since 2015 there has been a decline in population rates (The World Factbook — Central Intelligence Agency, n.d.). In addition to the total population decrease across Japan, we know that the annual population decrease across the Kyoto prefecture is -0.16% (Kyōto (Kyōto, Japan) - Population Statistics, Charts, Map, Location, Weather and Web Information, n.d.). Due to the general decline in population in the Kyoto prefecture, and in Japan, there are less locals in the Kyoto area to buy and occupy houses. This eventually allows for slow, tourist-led, gentrification.

2.6.4.4 Tourist-Lead Gentrification

The local population in the Kyoto prefecture is declining, due to this, there are less inhabitants which require housing. This leads to empty houses throughout the prefecture. On top of this, the law of inheritance tax creates a system where it is incentivized to sell a house rather than to pass it down. This creates more supply for housing in elderly neighborhoods such as those in Kyoto. Due to the increased supply of housing, many have bought them for profit turning these homes into Airbnb's and guest houses (Kato, 2020). The more housing available, the lower the price, and the more tourists that will stay in that area. Based on this system, local communities are being broken up over the course of decades and turned more into tourist-centric locations. This also incentivizes companies to "dress up" some less favorable communities in order to drive even more tourism for an economic boost. This is seen in the Kikuhama neighborhood where the government, and multiple developers, have been changing the purpose of various buildings.

Chapter 3: Methodology

3.1.1 Project objectives

Throughout this project, we aimed to relate the current restoration of the Takase canal with our research about the local community of Kikuhama. From the literature review and research we conducted, our team hoped to better understand the conflict around the restoration. With the goal of offering our view on the problem and what we believe to be a suitable approach moving forward. The semi-recent conflict the locals had with the municipality engineers on the vegetation along the side walls was considered as we devised our plans. Our team decided to tackle three main objectives as we carried out the project by using various data collection methods.

Our first main objective was to understand and preserve the cultural significance of the canal, and its surrounding landscape. This is because although the current plan might be thorough from an engineering perspective, it lacks a deep understanding of the local community. As of now, cutting a majority of the trees along the canal shows that their significance has not been considered. Hence, we conducted observations of locals' interactions with the Takase River, and carried out interviews and surveys with residents that lived along the canal, to better understand this complex relationship.

The second main objective of our project was to identify both the perceived and real risks posed by the vegetation in the area. A better understanding of such, allowed us to gauge the true risk of the local vegetation. In turn, this strengthened our argument to minimize vegetation removal along the canal. Doing so is imperative to meet our first objective and protect the culture and aesthetic of the neighborhood. To achieve this task, our team carried out tree health assessments and mapped the tree species along the canal to analyze their individual risks and whether they could be saved.

The final and most crucial objective was to construct a story map of the region that was able to tell the narrative of the neighborhood. The map displays the information our team gathered from the different data collection methods we carried out, including tree mapping, tree health assessments, canal damage assessments, and observations. For this story map, our team included detailed information about the plant species we observed along the canal, whether they are to be kept or cut down by the government, the risks posed by these plants, and the wall damages we have observed. In a more community-centric way, we have noted popular areas along the canal, and the interactions locals have with it.

3.1.2 Scope of study and limitations

Given our short time in Kyoto, the research our team carried out for the project was limited. Over seven weeks here, the main scope of our study was focused on better understanding the locals' opinions about the restoration project and mapping the vegetation along the canal. Our team collected as much relevant data as possible through different data collection methods such as observations, surveys, interviews, and fieldwork along the canal. Nevertheless, the success of the surveys and interviews could have been better if not for cultural differences.

Due to the language barrier between English and Japanese, getting the responses we needed became more difficult. To overcome this shortcoming, our team relied on DeepL, an online translation software, to translate our survey into Japanese. Once the questions were translated, we had them looked over by a Japanese-speaking student, then tripled-checked one more time by our sponsor to ensure the meaning of the questions stayed the same. Similarly, with the

interview, our team used DeepL to translate the interview questions beforehand, to ensure the questions made sense. During the interview, we used an app called Microsoft Translator to translate our conversation. The software translated our messages in real time, facilitating the process despite the hurdle posed by the language barrier. We also relied on a human translator during one of our interviews to ensure we got the process going as smoothly as possible.

Another challenge our team faced when collecting data was connecting with the locals. This was needed in order to schedule extensive interviews and to obtain responses from the surveys we distributed. With the lack of knowledge about the local culture and lifestyle, our approach to data collection could have been more effective. Some locals saw our work as suspicious, especially when we conducted observations and other forms of field work along the canal. This might have gone smoother if they had been adequately informed of our purpose beforehand. Furthermore, when our team reached out to the locals to answer the questionnaires, the English barrier made it harder for us to connect with them and explain our purpose to them.

3.2.1 Objective one - Understanding the cultural significance and landscape of the canal

To effectively understand and preserve the cultural significance of the canal, and its surrounding landscape, our team conducted assessments to understand the residents. To obtain information about the local needs, we started by making observations of local activities along the canal, and initiated interviews to gain a deeper understanding of the conflict between the locals and the project planners. With the information our team gathered from the observations, we derived relevant questions for our research that we wanted to learn more about. Some of these questions were added to our survey and interview questions list.

3.2.2 Observation technique and schedule

While carrying out the observations, our team considered the limitations and challenges we must overcome to collect the necessary data. We observed people's activities along the canal and noted everything we saw. The objective of the observation was to better understand the relationship between Kikuhama and the canal and its cultural significance. Through observation, we also identified some candidates that we could interview.

To record the information from the observation, we took notes and photographs as permitted, as these techniques are the most common and the most ethical approach to research observation (Newbold, 2018). Our plan was to carry out the observations over one week, where we observe for seven days, from Tuesday to Monday, from sunrise to sundown, which was from 6 am to 5 pm in Kyoto time, respectively. We scheduled four shifts for observation each day, with the first shift from 6 am to 9 am, shift two from 9 am to 12 pm, shift three from 12 pm to 2:30 pm and finally, shift four from 2:30 pm to 5 pm. Refer to *appendix A* for a detailed observation schedule.

This consistent schedule ensured we were always present during daylight hours to observe any possible activities. Furthermore, by conducting the observation at a consistent time and over a week, we can compare the different days and look for any notable trends that stand out that we should consider when putting our survey and interview together. However, due to unexpected reasons, our team couldn't carry out the observation on day five, which was Saturday.

To fix this problem, we observed for a full day on Saturday the following week to ensure we had data for every day of the week.

During observations, our team tracked the traffic alongside the canal, who used it, for what purpose, how long they stayed, and if anything special happened when they were there. We identified the different interactions as human-human, human-nature, and human-canal. These were defined in the following way:

- Human-human - interaction that involved two or more individuals, whether this was people walking along the canal or taking pictures together.
- Human-nature - when a person looks at the vegetation along the canal, takes pictures of the plants, maintains the plants, observes animals along the canal, or interacts with the animal.
- Human-canal - when someone takes a picture of the canal or themself with the canal as the background, cleans up the canal or simply observes the canal from the bridges.

We recorded all the relevant qualitative data and analyzed them before we made inferences on what the canal is currently used for and its connection to the locals. The information gathered from the observation was crucial in helping us understand the people versus canal relations. From the data we gathered, we analyzed and came up with a list of relevant questions we wanted to address in our survey to gather more data for our research. Furthermore, making observations of people's behavior allowed us to discover things people do around the river that we might have missed if we were to conduct the survey first (Grimes-Viort, 2010). Raw data collected from observations can be viewed in *appendix B.*

3.2.3 Interview the locals

After our team finished the observation, we moved on to our second phase of data collection, which was an interview. We performed in-person interviews before conducting the survey to gather more insightful qualitative data from talking to the residents. An interview is a form of a survey; however, it can be a lot more personal, where interviewees can reveal in-depth information about their experiences that they might have withheld from the survey (Taherdoost, 2022). With the interview, our team hoped to gain a more personal connection with the residents to identify underlying problems we might have missed during the observation stage. We derived a list of relevant questions regarding our topic of interest from the data collected through observation for the interview. As we interview the residents, we also ask follow-up questions to the interviewee's responses.

The follow-up questions allow us to dive deeper into the problem while keeping the interviewee engaged throughout the conversation. Unlike a survey, an interview gives interviewees the time and space to freely express their feelings with minimal constraints due to the questions' framework (Taherdoost, 2022). With that in mind, we identified and interviewed residents that have been in the neighborhood for a long time and have seen the changes in this area.

Our team selected interview candidates during the observation phase. The candidates were chosen based on their interactions with the canal, the location of their house, and their history with the region. We assumed that the more time a person passes by and interacts with the canal, the more passionate they are about protecting the region, which makes them an excellent fit for the interview. We explained our project to the potential candidates we identified and asked to schedule an interview with them. The project descriptions got translated into Japanese, and we showed them to the interviewee candidates to help

them understand our project better. We then scheduled a thirty to forty-five minute interview. Our goal was to schedule as many interviews as possible within the permitted time, one week after observation before we send out the survey, to ensure all the questions we hope to get the answers to are included. Refer to *appendix C* for a list of interview questions.

Before the interview, we presented the interview questions in Japanese to the interviewee as the locals we interacted with preferred seeing the questions first and having time to review them before the interview. The interview is semi-structured, where we ask clarification questions when necessary (Taherdoost, 2022). During the interview, we also asked the student accompanying us to help translate the follow-up questions that were not in the original questions script. This method, in a way, complicates the purpose of an interview, which is to establish a more personal connection with the interviewee due to the third-party translator. Despite that, it is still a suitable data collection method that our team relied on for essential data for our research.

3.2.4 Surveying Gojo to Shichijo

Following the observations and interviews, our team conducted a survey to gather as much data as possible to support our research. We followed the seven steps of a research survey process (figure 10) to minimize mistake(s) and maximize our chance of obtaining good results (Kasunic, 2005). With over seven hundred thousand residents over 40 years old, more than half of Kyoto's population (Kyōto, n.d.), we targeted the middle-aged and older population when designing the survey for Kikuhama local community. Our team incorporated the necessary accommodations into our survey to ensure its accessibility, as it is one of the many factors, we must address to guarantee its success.

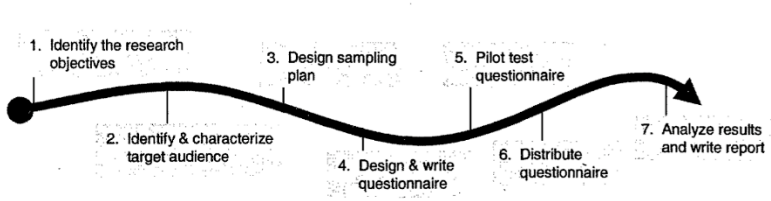


Figure 10: Overview of the seven-stage survey research process

Table 3: Description of the seven stages of the survey research process

	Stage	Description
1	Identify research objectives	What do you want the survey to accomplish? What information already exists about the problem you are asking questions about? Survey research must begin with a statement of the problem and how the survey will answer questions about the problem.
2	Identify & characterize target audience	Who, specifically, will respond to the survey? What assumptions can you make about their knowledge of the questions you have in mind, the terminology they understand, their willingness to participate in the survey, and so forth?
3	Design sampling plan	How big is the target audience population? Can the target audience be enumerated? How will you ensure that those who respond to the survey are representative of the target audience?
4	Design & write questionnaire	The survey objectives and internal questions must be translated into carefully-worded questionnaire items crafted to facilitate analysis and interpretation.
5	Pilot test questionnaire	The questionnaire instrument must be "tested" with members of the target audience to remove bugs and improve the instrument.
6	Distribute the questionnaire	The questionnaire should be distributed to selected members of the target audience as defined by the sampling plan.
7	Analyze results and write report	The results should be collected and translated into appropriate graphical displays that facilitate understanding. The charts can be compiled into a report and interpretations, inferences, generalizations, and caveats can be made based on evidence provided by the results.

The purpose of a survey is to "characterize a group's knowledge, attitudes, and behaviors' based on the information gathered from a smaller sample (Kasunic, 2005). Given this information, it is crucial that we correctly identify who our target audience was before composing questions that we want the answer to. The default group of

audiences that our team targeted were the residents of the Kikuhama neighborhood, specifically the families and people that interacted with the canal, as well as the local shop owners. These include restaurants, bars, hotels, bathhouses, Airbnbs, and cafes that run their business along the canal or close to the project site. During the observation phase, we paid close attention to these different groups of people to identify things we wanted to learn more about. Since these groups are the ones that lived and worked in Kikuhama, the project had a direct impact on them, which made them our priority when gathering data.

3.2.5 Survey design approach

When carrying out the survey, instead of relying on modern techniques to collect data - such as online surveys from links or QR codes - we turned to a more traditional method of paper surveys to gather the necessary data. Paper surveys are more accessible for the residents and result in a higher participation rate as they are easier to follow than online surveys. This is based on our observation that the demographic of the Kikuhama community is primarily middle-aged and elderly, and our target audiences are unfamiliar with using technology. Our team designed two different surveys to collect data. The short survey had ten questions with our project description and accessible space for respondents to leave comments. This survey was meant to give people an idea of what we were doing and allowed them to reach out to us if interested in answering more questions through an interview. On the other hand, the long survey is a replica of the interview questions we hoped to get the answers for. The questions are open-ended, and respondents had the space to write their answers. The questions in our long survey differed from those in the short survey.

3.2.6 Survey questions format

Another factor we considered when designing our survey was the question format and what we could do to ensure the study was engaging and non-biased. With the language barrier being one of the biggest challenges we must overcome, the questions we asked are concise and clear, with direct ties to the objective for which we designed the survey. With each question, the wording was critical, especially in our case, where we translated our questions into Japanese. Unclear questions may cause the meaning to be lost in translation, resulting in replies that do not correlate with the survey's purpose. We designed the questions clearly to avoid wasting respondent time and ensure we gained quality information from the responses (Kasunic, 2005). For each question, we also avoided wording the questions in such a way that suggested one answer is more acceptable than another to avoid any bias from occurring (Kasunic, 2005).

We formulated most of our survey questions as “questions about attitude,” which seek to learn more about what people feel about a topic (Kasunic, 2005)**,** which is the project plan and what they wanted. When constructing the questionnaires for the survey, we applied both structured and unstructured questions to obtain results. Most of the questions will be close-ended, or structured questions with multiple choice and options ranking from most agree to most disagree, but also open-ended or unstructured questions that allow the respondents to elaborate further on the topic without constraint (Kasunic, 2005). The responses we obtained from the respondents let us generalize what the locals wanted and better understand the culture and their connection to the canal. Refer to *appendix D* for a copy of the survey questions.

3.2.7 Survey distribution

When distributing the survey, our team took a few different approaches to ensure we could get as many responses as possible. The first was to print the questionnaire out and distribute it to residents we connected with during the observation phase. For these residents, we gave them both the short and extended versions of the surveys since they were the ones that were willing to fill out the questionnaires but not do the interview. Some of them were also willing to assist us in distributing some of the surveys to other Kikuhama locals with whom they had a connection, for which we provided extra copies along with the time when we would come pick them up. Our second approach was to talk to some businesses along the canal and ask them to fill out the survey if they were not interested in doing an interview. Our final approach was to distribute surveys to people's mailboxes with a note that we would come back in about four days to collect the responses. This approach was recommended by the former president of a local university. We only distribute the short survey for the mailbox distribution to ensure respondents are not overwhelmed and bored with many questions.

3.3.1 Objective 2: Minimization of vegetation removal

Following the first objective, our team proceeded to conduct further assessment of the vegetation along the canal to learn more about the ecosystem and biodiversity along the canal. To minimize the removal of the vegetation along the canal, our team took a few different approaches, including species mapping, tree health assessment, and hazard assessments, to decide which tree posed a risk to the community and which could be saved.

3.3.2 Creating a Permanent Tree Record

The restoration of the Takase River has been taking place since 2010 and many trees have been cut down during this process. In the region of interest to us, the area between Gojo and Shichijo streets, the project has been resumed and renovation has begun. Although there was initial backlash to the project, a group of residents have since been convinced by the local government and agree that some of the native trees can pose a risk to the local community. Since the project was underway, our group surveyed the local vegetation - with an emphasis on the trees - in order to create a permanent record of the local treescape.

The goal was to create a record of the condition of the trees before the restoration began. This will allow the residents to hold the government accountable and prevent healthy trees from being cut down. The product of this vegetation survey was a map which keeps a record of the location of the trees, their species, and the risk they pose to the local area.

3.3.3 Treescape Mapping and Identification

As discussed above, our project team conducted on-site surveying of the treescape in the stretch of the Takase River between Gojo and Shichijo streets. During the surveying process, the locations of trees were marked on a physical map, each with a unique identifier. This data was later transferred into a digital version of the map. The digital map was then created using Adobe Illustrator and QGIS. This meant that our final product could be utilized in the future.

During the data collection process, group members utilized mobile software to identify the different tree species that are found in the area. PictureThis was the software selected for this process since it

outperformed others such as: LeafSnap, PlantNet, iNaturalist, Seek, and Google Lens. The choice was made since PictureThis was the best at identifying Asian tree species while the other apps were more west oriented and struggled with the local flora. These softwares use artificial intelligence in order to visually recognize tree species. As the survey progressed, team members became more familiar with the local flora, so we were less dependent on the identification software. Lastly, when the map was digitalized, the different tree species were assigned different colors to allow for easy recognition.

Figure 11: Team member using PictureThis to find the species of the bush

3.3.4 Tree Risk Assessment

Currently, a major concern, expressed by both the engineers and some Kikuhama residents, is that of old trees causing property damage. According to the information we had available, we knew many trees were old and posed risks such as falling onto nearby houses or causing damage to local houses and the sidewalk via their roots.

Given the scale of the mapping effort, and the time required to conduct a full risk assessment, our project group targeted a smaller sample of trees. During the initial ground survey, trees that were substantially tall - over four meters - or that had visible damage were marked as "potential risks" while smaller trees were not analyzed. This is because the latter did not pose risks to nearby houses, the street, or passerby. A second round of ground surveying was then conducted.

On the second survey, only the trees that were deemed "potential risks" were analyzed for a set of criteria. This criterion was heavily inspired by the research conducted by Adesoye and Dondofema to avenue trees in Limpopo Province of South Africa (2021). In short, this approach broke down the risks into health, stability, and hazard assessments.

3.3.5 Tree Health Assessment

This was the fastest assessment as it was purely visual. The trees were ranked on a scale from zero to two depending on their condition with zero being no issues, one being mild, and two being severe (Adesoye & Dondofema, 2021). Four parts of the tree were analyzed:

- Tree root: Incidence of insect damage/disease/root decay/butt rot
- Tree trunk: Incidence of crack/heart rot/insect damage/disease
- Tree branch: Incidence of decay/cavity/weak or dead limb
- Foliage: Incidence of insect/disease/chlorosis/injury

The scores from all four parts were summed and if it remained at zero the tree was considered healthy, if it ranged between three and two it was considered fairly healthy, and if they scored a three or above, they were considered unhealthy.

3.3.6 Tree Hazard Assessment

A tree was considered hazardous if its conditions posed a risk to nearby buildings, people, vehicles, or other properties. This was determined visually using the Matheny and Clark method (Adesoye & Dondofema, 2021). To do so we identified a problematic part of the tree, then, the table below was utilized to rank it in the different categories:

Table 4: Tree Hazard Assessment

Class Value	Failure Potential	Size of the Defective Part	Target Rating
1	Minor defects	< 150 mm	Low Use
2	Lean, cavity of 10–25% of the circumference of the stem	150–450 mm	Intermittent Use: sidewalk, picnic area, day-use parking, school playground
3	Significant lean, the cavity of 30–50% of stem circumference, decay along a branch	450–750 mm	Frequent use (e.g. street parking, school)
4	Butt decay, partial uprooting of leaning tree, and cavity of more than 50% of stem circumference	> 750 mm	Constant use - year-round use

The way we used this table is as follows. There are a total of three categories, each with four classes with increasing class values. Failure potential refers to the defect of damage a tree might have and size of defective part refers to the size of the object that exhibits the failure potential. Lastly target rating refers to the potential target that the defect tree limb might impact; a rating of one would correspond to the river where it might need repairs but doesn't pose a risk to people, a rating of four would correspond to someone's house where there is a high likelihood to hurt people.

The class values for each category were added together to obtain the hazard rating for a given tree. The risk associated with the totals are as follows: Low (3–5), moderate (6–8), high (9−11) and severe (12).

3.3.6.1 Tree Stability Assessment

Since we did not have the machinery to sample the trees, and we wanted to keep them alive and intact, this study was non-intrusive. This meant that we were not able to do a proper analysis of the root systems of the tree. One way around this was to analyze the aboveground silvicultural characteristics of the trees and use the tree stability index (TSI) to determine their stability. The characteristics that were analyzed in order to use this index are: breast height diameter (D), tree height (H), height at crown base and the radius of the crown (R1-R4) (Kontogianni et al., 2011).

- Breast height diameter (D) - This is the diameter of the tree at 1.3 meters above ground
- Tree Height (H) - Height of the tree from its base to its highest point
- Height at crown base - Lowest point at which the tree crown begins to form
- Radius of the crown (R1-R4) - The distance for the foremost point of the crown and the center of the tree's trunk. A total of

four perpendicular radii will be found in order to assess the trees stability

With these values, we were able to calculate and categorize the trees into their respective TSI classes. Nevertheless, the documentation of the TSI method does not explain how to calculate many of the indexes that are needed to rank the trees. This would be an issue if it had not been determined that the most important factors for tree stability were tree height, crown ratio, and crown asymmetry index (Kontogianni et al., 2011).

Because of this, our group used a modified version of the TSI index shown in table 2 below - the original TSI table can be found in *appendix E*. The case study in Limpopo Province of South Africa did a similar thing and only used the three aforementioned categories instead of conducting the full TSI.

Table 5: Modified Tree Stability Index

Class Value	Height Classes	CR Classes	CAI Classes
1	<5m	<0.33	R1=R2=R3=R4
2	5 m-10 m	0.34-0.5	R1=R3 and R2=R4
3	10 m-15 m	0.51-0.66	R1 ≠ R3 and R2 = R4
4	15 m-20 m	>0.67	R1 ≠ R2 ≠ R3 ≠ R4

Each category can rank from one to four depending on its class, all categories are then summed up to give a TSI value. This value ranges from 3 - for the most stable trees - to 12 - the least stable (Kontogianni et al., 2011). The height class is self-explanatory, but the other ones are:

- Tree's crown ratio (CR) - Ratio of crown length to total tree height. This can also be the percentage of a tree's total height that has foliage, our team plans to subjectively divide the trees into the categories above (DeYoung, 2016).
- Crown asymmetry index (CAI) - Trees can be in different classes depending on the geometry of their radii. The figure 12 below exemplifies the different kinds of distributions of a tree's crown.

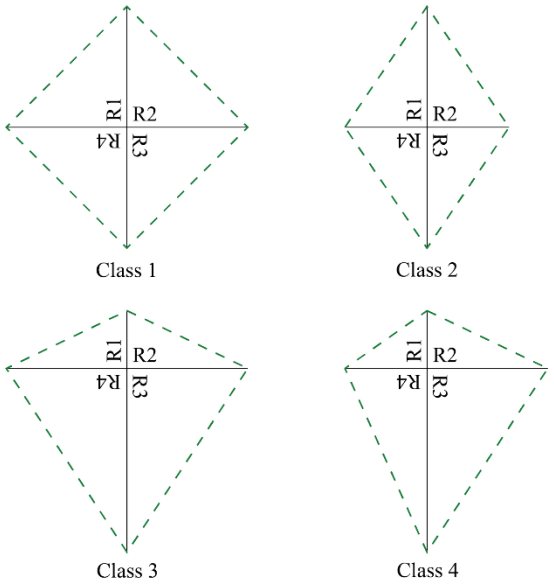


Figure 12: CAI Classes

3.3.6.2 Taking Tree Measurements

Since our project group followed the tree stability index from the previous section, a lot of field surveying was required. The tools we had at our disposal were limited, ideally the group would have used a forestry laser rangefinder - the top-of-the-line equipment when it comes to tree surveying. This equipment exceeded our budget so instead we used the following: both closed and open measuring tapes, and a clinometer.

Due to the restricted equipment, we had at our disposal, the height of the tree was a fairly difficult measurement to take. With the aid of the clinometer, we stood away from the tree at a point where the top of the crown was visible - this distance was measured with the open measuring tape. With the clinometer, the project group then determined the angle from our position to the highest point of the tree (*How to Measure Trees*, n.d.). With these two values alongside the height of the project member who recorded the tree's height, we just used the two following equations to find the height:

h (Height) = Tan (clinometer angle) d (Distance to tree trunk)

Final tree height= h + hR (Recorder Height)

3.3.6.3 Tree Lean Assessment

Trees that have an uneven canopy distribution can be stabilized by simply cutting the canopy to even out the force placed upon the base of the tree. However, this can only be done if the tree was completely vertical, or the majority of the tree is vertical. In the case where more of the tree is vertical and only one branch of the tree was at an angle, then that one section can be cut off and the tree can be stabilized. If the tree grew out of the ground at an angle, so the entire tree is leaning, it will still have an uneven force put upon its base. Even if the canopy were to be stabilized, the tree itself would still be hazardous as the majority of its mass would not be vertically above its base. This uneven force will still classify the tree to be a danger to the environment around it which would classify it as "non-fixable". See figure 13 below for examples of fixable and non-fixable trees.

Figure 13: Example of a Fixable Tree (Left) & a Non-Fixable Tree (Right)

The team performed a tree lean assessment by purely visual means. This assessment was done separately and was not assessed purely on the failure point score from the tree hazard assessment discussed above. This is because the failure point score awarded to the tree takes other factors into consideration, such as if there is a cavity in the tree

base. Here, we are only interested in if the tree is excessively leaning, therefore this assessment had to be done separately. If the majority of the tree was leaning at an angle, and it was clear that the most of the tree's mass was not over its base, it was classified as not fixable. If only a few branches of the tree grew out to make the tree uneven, but the majority of its mass still vertically over its base, then it was classified as fixable. This was only performed to the trees that were marked as hazardous from the tree stability assessment as described above.

3.3.7 Damage Assessment

In addition to our on-site observations, we also conducted a visual overview of the canal damage. We used the notes for damage identification from the article *Reclamation: Managing Water in the West* to perform this damage observation. The team identified cracks along the wall, this was mainly in the form of missing face rocks, or rocks that were separated, see figure 14. We also marked areas of erosion damage, which took the form of rocks missing at or below the water level, see figure 15. This type of damage is very detrimental because it can lead to seepage, which occurs when water leaks out of the canal, leading to internal erosion and, ultimately, canal failure. Another sign of water seepage is “sand boils” which are areas along the canal that are raised; view figure 16 for examples of water seepage. There were no sand boils identified along the canal as it is entirely paved in asphalt and concrete. We also monitored areas of root damage along the canal wall. To detect this, we simply saw areas of the canal where there was extreme root damage. The roots would move the face rocks along the canal causing seepage and erosion deep in the canal wall, see figure 17. Finally, any foliage damage along the wall was recorded, see figure 18. This includes foliage along the canal floor and plants growing out of the canal wall. These are areas in which the entirety of the face wall needs to be removed to cut down the foliage and to repair the canal. Most, if not all, of this type of damage will result in the removal of this kind of foliage.

These types of damages were used to identify areas of the canal where trees may need to be removed for repair. Trees that cause significant root damage will need to be taken out for the repairs to occur. Areas with foliage damage will need to be completely cleared of said foliage to be repaired. Locations with excessive cracking and erosion damage will likely result in the removal of some trees, along that section of the canal wall, for repair.

Figure 14: Example of Crack Damage

Figure 15: Example of Erosion Damage

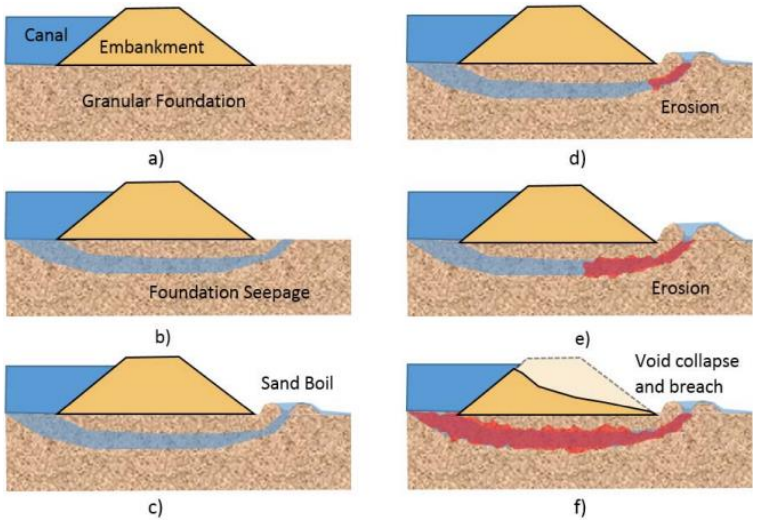


Figure 16: Examples of Water Seepage

Figure 17: Example of Root Damage

Figure 18: Example of Foliage Damage

3.4.1 Objective 3: Map of Kikuhama Neighborhood

Maps were created to best visualize various types of data along the canal, outlined below. A highly detailed, and up-to-date, paper map was collected from the Kyoto government center. The map was then scanned in order to be digitalized. The resolution of the map, after scanning, was not high enough for the detail we wanted to provide on the map. We needed a high-resolution map to have the ability to closely zoom in to display our arbitrarily set sections of the canal, whilst still having enough resolution to precisely place the data in its correct spot. If the resolution were to be too low, the trees would end up looking extremely pixelated and it would be hard to pick out the precise location of the data along the canal. This created the need for the maps to be vectorized, which would allow us to have infinite resolution and scalability. Adobe Illustrator was utilized in order to carry this out.

3.4.2 General Tree Map

We created a general map with the location of all the vegetation along the canal. The data for this map was collected via the "Treescape mapping and Identification" chapter above. The trees were assigned a number in a separate spreadsheet with its pertinent information: the species of the tree, if it had a ribbon, and if it had a plaque attached to it. The location of the tree was then recorded on paper as per our method above. The paper was then scanned and overlaid, in Adobe Illustrator, on top of our vectorized map so that the trees could be transferred over with a tree icon and an identification tag denoting its location.

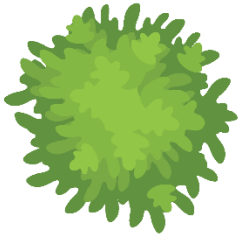


Figure 19: Tree Icon

3.4.3 Saved Trees Map

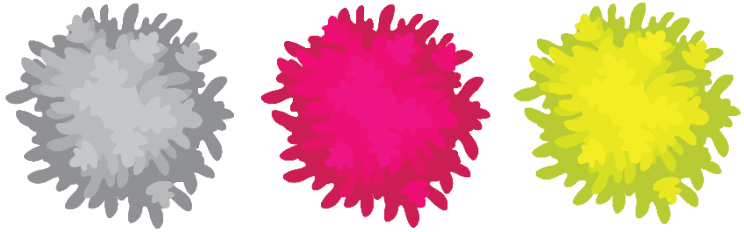


Figure 20: Icons for trees without a tag, pink tagged, and yellow tagged respectively

We identified any trees with a pink or yellow ribbon on them, this indicated that the tree would be kept when the restoration was to occur. These "saved trees" were then put on a map in a similar fashion as the map prior. All the trees that were tagged were colored accordingly, while trees that did not have a ribbon were simplified into a grayed-out icon. See figure 20.

3.4.4 Risky Trees Map

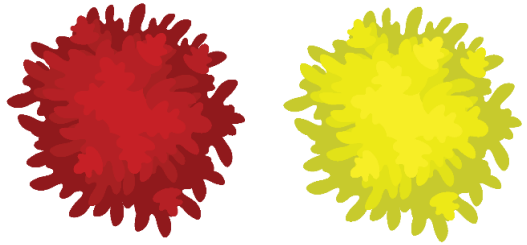


Figure 21: Very risky tree and moderately risky tree respectively

As per the tree risk assessment that was carried out, the data about risky trees was then placed into a map. The trees that had the risk assessment performed on them were kept and colored to represent their risk. The irrelevant trees were simplified into a grayed-out icon. We identified any trees that scored greater than a five as risky and they were placed on this map. Trees that scored moderately, a score greater than five but less than nine, had their icon colored yellow. Trees that had a high score, greater than nine, were colored red labeling them as very risky. See figure 21. Refer to *appendix F*

3.4.5 Canal Damage Map

The canal damage map was based on observations made under four categories defined above in the "Damage Assessment" chapter. The damage types were cracks, erosion, foliage, and root damage. The location of these damages was plotted on individual paper maps which were then scanned and the location of each type of damage was transferred to the digital map. Lines were then placed along the interior of the canal map which represent the length of the damage. Tags were not used in this map, as there are no trees, and to avoid clutter. Instead, the four types of damages were color coded. Crack, erosion, root, and

foliage damage was colored red, blue, brown, and green respectively. Refer to *appendix G* for the Canal Damage Map.

3.4.6 Combined Map

Using the maps and data above, a combined map was created. The map included data from the canal general trees, damage, and risky trees. The map was created by first overlaying the damage map over the general trees map. Trees that were along any areas of root damage were removed. The roots of trees can tangle around each other, this makes it extremely difficult to remove just one tree without killing the rest. Therefore, we determined that it is best that all the trees along any root damage be removed. Trees along damage that only affected the face rocks, crack, erosion, and foliage damage, were kept due to these types of damages only affecting foliage inside the canal and along the wall. This map only pertains to trees along the top of the canal sides. We had also observed that areas which experienced face rock damage were able to be repaired without the removal of trees above them, figure 22. Finally, the risky trees map was overlaid onto this map. Any trees which were risky, and not fixable, were removed, while trees which were fixable were colored orange. This combined map now holds trees that do not cause damage and are not risky or can be stabilized.

Figure 22: Face Rock Repair Without the Removal of Vegetation

3.4.7 Canal Hotspot Map

Data from our observations was extensively used for the hotspot map. Areas that attracted people were placed along the map using three categories: restaurants, businesses, and points of interest. Plotted on this map are icons for the type of service such as a fork and knife for a restaurant. These icons were then also colored based on category. Restaurants were colored blue, businesses were colored green, and points of interest were colored red. The name of the business or restaurant was also placed next to the icon. See figure 23 for the list of icons.

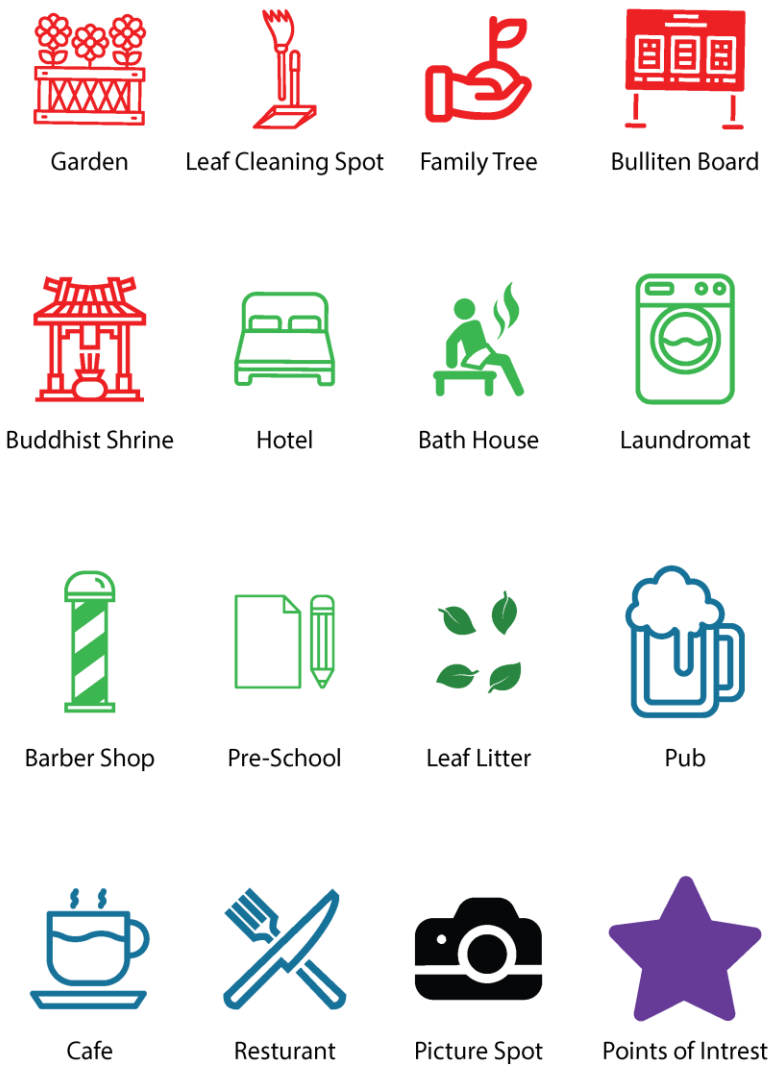


Figure 23: Hotspot Icons

3.5 Satellite Picture Comparisons

It was important for the project to gain an understanding of how vegetation in the area has developed over time. We first used Google Earth Pro in order to obtain a broad view of the changes that happened in two different regions: Nijo-Shijo and Shijo-Gojo. We combined the images obtained from each region in order to easily compare the changes to the treescape or buildings. Since it was hard to see the changes through the satellite images, we went to Google Street View for an in-depth look on how vegetation has developed in the regions from the start of the available data in November of 2009 to the most recent data in June of 2022. This information was compiled by using Google Street View pictures at various years to compare how the vegetation has evolved in number, size, and variety. The pictures were taken in various spots along the river in order to represent as much of the river as possible.

In the region of the current project, Gojo-Shichijo, we used the Google Street View data to collect data on how the vegetation has changed over time as well as how the buildings have changed. We used pictures to demonstrate new buildings that have been put up in the area as well as any vegetation that has changed from March of 2015 to June of 2022. Since the restoration efforts started after the most recent Google Street View data, we collected pictures along the canal to demonstrate the changes from the restoration efforts in the areas needed. By using the information collected with these pictures and any information we collect from surveys and interviews, we established any trends that we saw and discussed how these trends could affect the area in the future.

Chapter 4: Findings & Analysis

4.1 Introduction to Findings & Analysis:

Our project aimed to understand and tell the narrative of the people from Kikuhama. As a result of considering multiple factors in our research, our team had to find a means to connect the collected data. In the end, our group has decided to organize our findings and analysis in a similar format to a story map. This is because it would allow us to display our maps, observations, and survey data in the context of narrative text.

Our story map begins with a brief introduction to the upstream regions of the Takase River canal. Region 3, highlighted in pink, is the area near the mouth of the canal, and the area highlighted in orange is the recently restored region 2, located between Gojo and Shijo streets. Just south of region 2, you can find the Kikuhama (region 1), which was the focus of the study, highlighted in green.

Through satellite image and Google Street View data, our group has analyzed the changes that these regions experienced since the restoration efforts began in 2010. We then conducted a more detailed analysis of the decrease in biodiversity experienced in region 2 since it closely resembles the Kikuhama region. This was all done to better understand how the government conducted the restoration and extrapolate these findings to region 1.

With a better understanding of the vegetation of region 2, we then discussed the vegetation of region 1. This enabled us to compare and contrast both regions to identify changes that might occur to the Kikuhama region. These potential changes are then supported by the data we have collected on trees that are scheduled to be cut. Both of

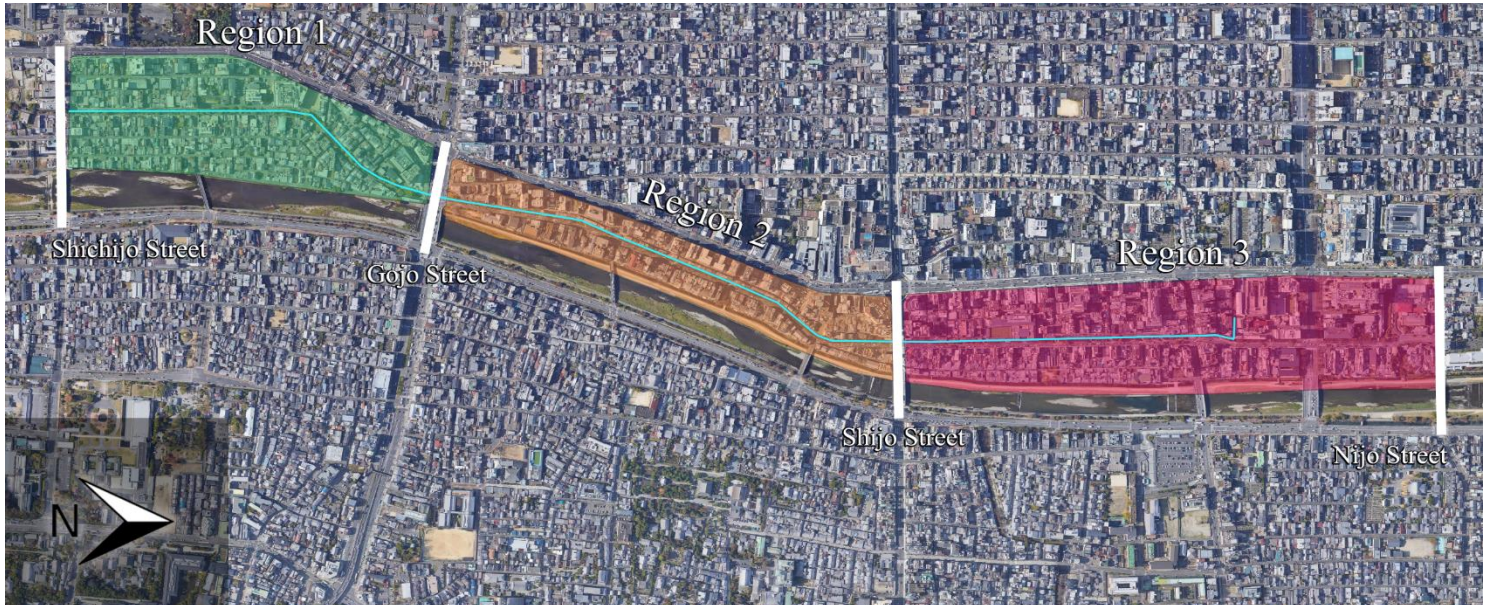


Figure 24: Map of restoration area divided into regions

these together gave us a better image of what the future treescape of Kikuhama may look like.

The testimonials of residents gave us insight into how they will feel about the restoration. These testimonials also demonstrated how much the people are reluctant to defy the government. Nevertheless, we discussed how the residents expressed their dissatisfaction with the original plan of the restoration and the measures that the government has taken to satisfy them.

Even with these measures in place, we made it clear that the desires of the people do not match those of the government. Locals are interested in the aesthetic benefit of the restoration while the government claims change is necessary for the safety of the region. Since this is the biggest issue according to the government, our group conducted its own tree risk assessment to determine the difference between the perceived and real risk.

We then contrast what the government prioritizes with the way the canal adds value to the residents. Since This data, learned via observations and interviews, is then represented in our hot spot map. We also include what the residents have said they want from the restoration. We then rounded up the story with what we believe to be the reason behind the restoration. We provided the opinion that we have made after analyzing recent housing and development trends in the region and also considering the involvement of the Yamauchi Foundation as a leading sponsor of this restoration project.

4.2.1 Upstream Restoration:

We conducted satellite image analysis via Google Earth Pro for two sections of the Takase River canal (region 3 and 2) in order to observe changes in recent years. The group went into this analysis with the

goal of identifying changes in vegetation density and variety along the years, but the results were not as expected as we will discuss later.

There were some limitations to our analysis. Since our goal was to frame regions 3 and 2, the visibility of elements such as trees and buildings is not optimal. Moreover, the years of the images are arbitrarily spaced since those were the years with available satellite image data of the region. Nevertheless, the records available range from before the restoration until after it took place, in turn making them useful.

4.2.2 Satellite Image Data

Figure 25: Satellite History of the Mouth of the Takase River Canal (Region 3)

In figure 25 and 26, shown on this and next page for regions 3 and 2 respectively, we have compiled satellite data from Google Earth Pro from the years of 2005, 2007, 2013, 2016, 2017, 2018, and 2021. The two images allowed us to observe changes that took place over these years. As the conservation of local flora is of interest to us, it was the first thing analyzed.

Immediately, the abrupt changes of vegetation between some years stand out, namely in figure 25 between 2005, 2007, and 2013. In these three images, the trees seem to be cut down only to reappear years later. Nevertheless, this change is not due to direct human interaction, instead this is a limitation of the data available. The season when the satellite data was recorded varies between some of the images, and even when the months are not far apart, yearly climate fluctuations affect the visual appearance of the trees.

As a matter of fact, between the years of 2005 to 2021 there seems to be no significant changes to the treescape of the area in figure 25. By comparing all seven images we can see that all trees in the area have remained in their respective spots at least since 2005, before the 2010 restoration, until 2021. The only major change visible in figure 25 is the construction of The Gate Hotel starting sometime between 2017 and 2018 and finishing construction sometime before 2021.

This hotel replaced what seemed to be a large sandy field (circled in red) with two volleyball courts. We can assume that the field was previously used as a recreational space by locals which was later taken down. It is important to note that since the restoration efforts began, the region near the mouth of the river has become a popular nightlife region. It boasts many bars, clubs and restaurants which see large numbers of people during the nighttime. The change of the volleyball court into a hotel can be seen as a way to cater to the popularity of the region, attracting both domestic and international tourists.

The trends observed in figure 26, located farther downstream, are similar to the ones seen in figure 26. There are no visible changes in the treescape between 2005 and 2021 which suggests that the restoration conserved most trees in the area. Moreover, we also see new buildings being constructed across the years which can be seen highlighted in figure 26. All these buildings are apartment complexes that replaced some individual households and some parking lots in the process.

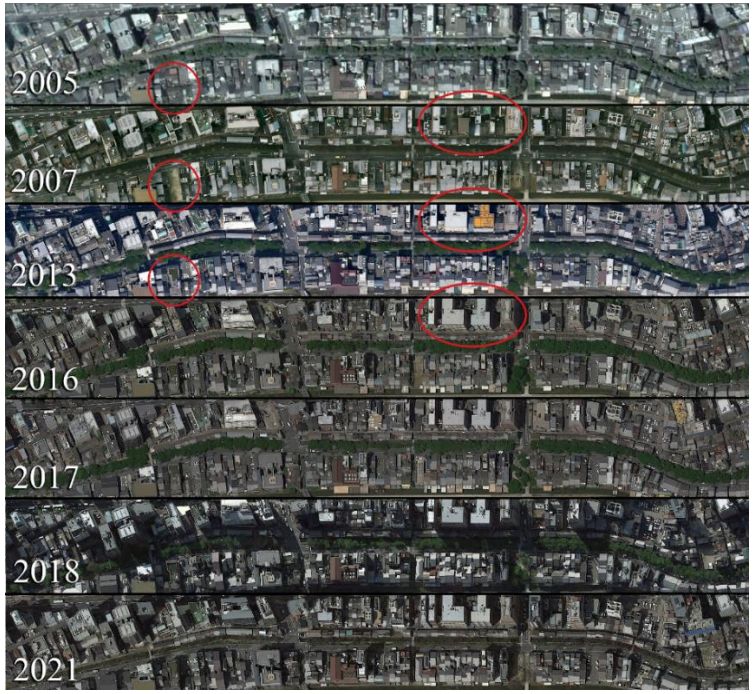


Figure 26: Satellite History of the Area Between Gojo and Shijo (Region 2)

These new buildings do not impose a new purpose to the neighborhood. This is because before their construction, the area already had a residential character. This is seen as the region in figure 26, between the streets of Gojo and Shiijo, has multiple restaurants but also multiple residential complexes. Overall, this is a positive thing as the buildings potentially addressed housing needs of the area instead of forcing hotels into the region.

The development of this region is important to the study since this area closely resembles Kikuhama, which is mostly residential. Since these changes could be seen in Kikuhama, we decided that the satellite imaging was not enough to understand the area between Gojo and Shijo.

4.2.3 Google Street View Data

Our response to the shallow analytical potential of the satellite image data was to look for other forms of historical images. As a result, we pivoted to Google Street View which allowed us to look at individual trees, with the downside of being a more time-consuming process. Since region 2 is more relevant to this study, our group did not conduct a detailed analysis of the Google Street View data of region 3.

From the Google Street View images, we can see a portion of the canal was already restored by 2020, with some machinery still inside the canal. When we look at the images from 2021 the canal restoration is complete which indicates renovation between Gojo and Shijo finished sometime between 2020 and 2021. Moreover, by comparing the trees from 2020 and 2021 we concluded that trees in the area were cut before the restoration approached them. This is similar to what we observed occur in our area of study in Kikuhama; where areas that were yet to be restored already had their trees cut down.

This meant that if we were to compare the 2009 street view images to their 2020 counterparts, we could identify what happened to the trees. Immediately after comparing the two years, we saw a big difference to what the satellite data suggested.

Figure 27: Same Locations Between Gojo and Nijo 12 years apart

It is evident that the government cares about the amount of tree cover since it remained mostly the same, as suggested by the images in figure 26. Nonetheless, it is also clear that they do not care as much about biodiversity in the area.

4.2.4 Decline in Biodiversity

This can be seen through the Google Street View data that showed us trees were in fact cut down. An example of this can be seen in figure 27**,** shown above, where the tree marked by the arrow has been cut and replaced by a new one. Since the tree that replaced it did not match the original's species, we can see that the government values aesthetics over the biodiversity and history of the vegetation in the region. Moreover, the tree that was cut was not a unique case but instead a fairly common occurrence, hence, we decided to quantify the number of trees cut and if they were replaced.

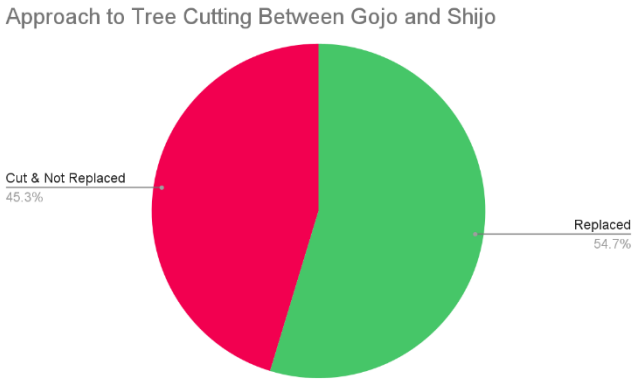


Figure 28: Approach to Tree Cutting Between Gojo and Nijo

As shown in figure 28, a total of 64 trees were cut during the restoration, out of which only 35 were replaced. This roughly meant that for every two trees cut down a tree was planted. After conducting

the analysis, we recognized that trees that were cut possessed one of the following features: short distance to neighboring tree, and/or short to no distance to the canal wall. These features can be seen in figure 27 above.

We also observed that once trees were replanted, they were more evenly spaced out than the original trees. This indicated that the government had two goals when cutting trees down: to prevent future damage to the canal walls and create a more organized look to the vegetation. This is evident in figure 27 as the renovated canal looks less wild and more structured and organized. The feedback to this change from Kikuhama residents was mostly positive, with 70.6% out of our 17 survey respondents claiming that they liked the look of the upstream restoration. Nevertheless, this does not mean they particularly like what was done to the trees as there were multiple elements to the restoration.

From the interviews we conducted and some of the long survey responses, it was clear that the local residents really want to see the structural aspect of the canal renovated. This is most likely the element of the upstream canal restoration that they were satisfied with. The importance of this was clear when one interviewee said that he "want[s] the canal to be beautiful" when asked what he would like to see from the restoration. And when asked what he wanted to be beautiful he answered that the canal was damaged, indicating the previous assumption was correct. On the other hand, they do not give much importance to what was done to trees. One of the residents claimed he did not believe there was much of a difference between Kikuhama and the restored area while another said he never thought too much about it.

The notion that the government purposefully aimed for a more structured look is also supported by the change in plant species along the Takase River. Something that we did not quantify given it is almost impossible to do so via images. Nonetheless, it is important to note that there was a clear reduction in the variety of both trees, but especially bush species in the area.

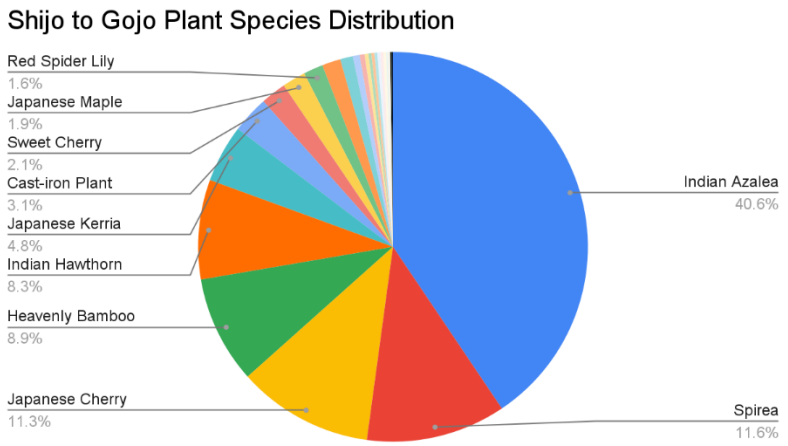


Figure 29: Distribution of Plant Species in Region 2

After restoration, the bushes seemed to be replaced by a single species of low growing shrubs called the Indian Azalea. Since this species is visually prevalent in the area, we asked the Takase Community Project IQP group (Deichart, 2022) for their vegetation data of the Gojo to Shijo area. The data collected by the other IQP group indicated that Indian Azalea was in fact the most prevalent plant as indicated in figure 29. Detailed data regarding the biodiversity of the upstream data our team received from the Community Centered Activity Along the Takase River group can be found in appendix H.

Table 6: Small Section of the Master Tree Data Spreadsheet

#	Tree ID	Raw ID	Species	Tags?	Prone to risk?	Tree with sign?	Fruit Tree?	Present in Nijo-Gojo?	Notes
1	A1		Chinese Firethorn		No			No	
2	A2		Chinese Firethorn		No			No	
3	A3		Oleander		Yes			No	
4	A4		Japanese Maple	Pink Tag	No			Yes	
5	A5		Japanese Maple		Yes			Yes	
6	A6		Chinese Hackberry	Yellow Tag	No			No	
7	A7		Camphor Tree		No			No	
8	A8		Camphor Tree		No			No	
9	A9		Kurogane Holly	Pink Tag	No			No	
10	A10		Rose of Sharon	Pink Tag	No			Yes	
11	A11		Kurogane Holly	Pink Tag	No			No	
12	A12		Japanese Spindle		No			No	

4.3.1 Ongoing Restoration of the Kikuhama Region

Data about the tree species was collected in our Master Tree Data spreadsheet, a small portion of which can be seen in table 6. The species were identified with the aid of the PictureThis app along with any other details such as the "Tags?", "Prone to Risk?", and "Tree with sign?" were marked by our observations made about the trees. The "Tags?" refer to whether or not the tree was marked with a pink or yellow tag, used to ensure the tree will not be cut down during the restoration process. The "Prone to Risk?" was given to trees we wanted to revisit when conducting the tree risk assessment. Lastly, some trees had a plaque which indicated their species, so we made sure to record this information in the "Tree with sign?" column. This was only the quicker aspect of the mapping process; the most arduous part was correctly plotting the trees into the map.

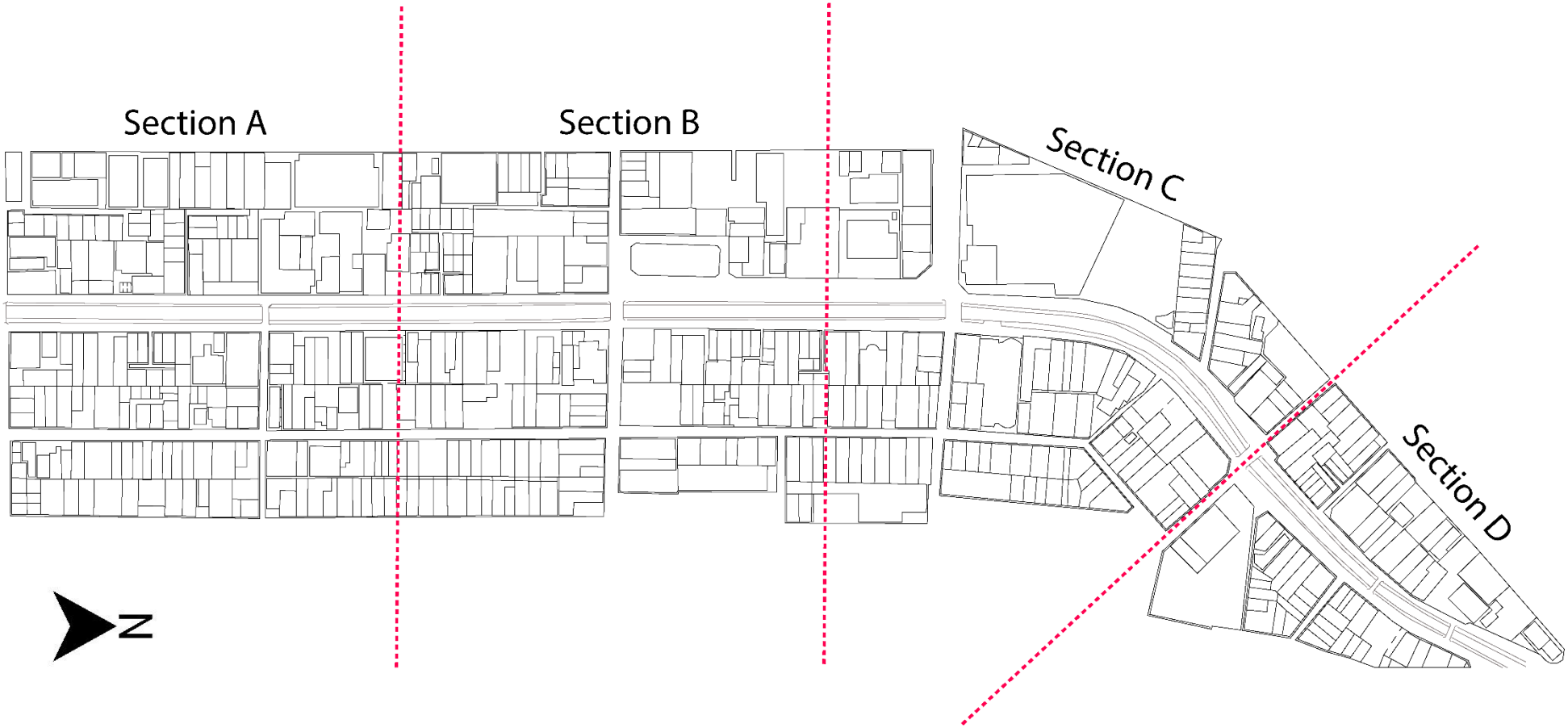


Figure 30: Kikuhama Region Divided into Sections

We manually marked the location of the trees into a map of the Kikuhama region. The group obtained this map at the Kyoto City Hall and later digitalized it, so that we could use it as a base for our project. We then split into four sections of equal lengths labeled A, B, C, and D, as shown in figure 30. Each tree was given a number and the location of the tree with that number was plotted on the map, while just the number of the tree was put on the spreadsheet.

The spreadsheet was later organized by species of tree in order to see any outliers. This prompted us to re-scan those specific trees to make sure they were in fact that species. In the end our group was able to create the map in figure 30, which displays any vegetation taller than 1.5 meters (chest height). A more detailed view of each section of the map can be found in *appendix I.*

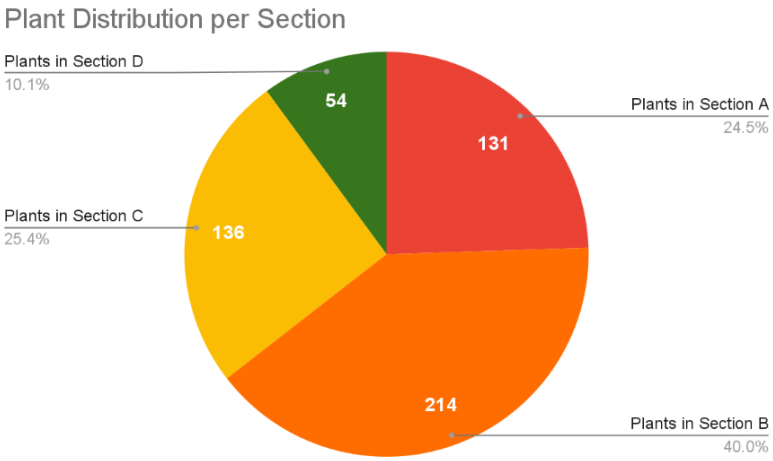


Figure 31: Number of unique Species per Section

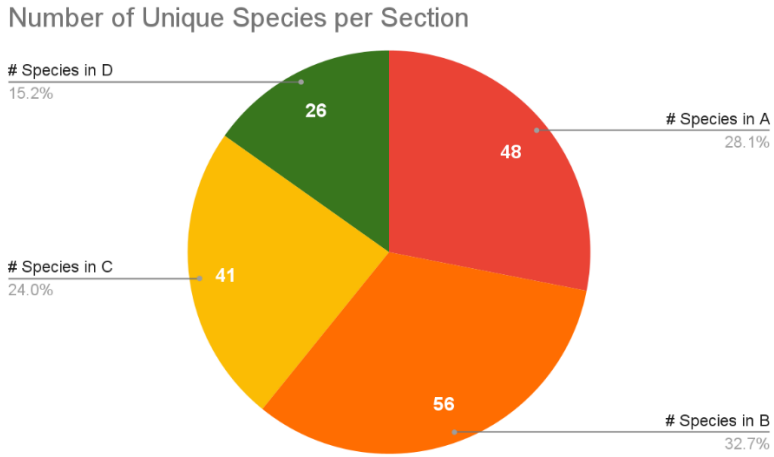


Figure 32: Plant Distribution per Section

4.3.2 Plant Species Data

After organizing the data, we were able to gain a better understanding of things that are hard to quantify purely through observation. A total of 535 plants were marked along the canal, spanning a total of 100 unique species. Out of these plants, 214 were found on section B, making it the area with the most plants along the canal. On the opposite end we had section D, with only 54 plants, and sections A and C land in the middle as shown in figure 31.

It is important to note that section D is the area where the restoration has already significantly advanced, and trees have been cut. This is worrisome for Kikuhama if the remainder of restoration follows the same trend. Additionally, there is no indication that new trees will be planted in the area, which means that the plan may, indeed, be to create a new, and more structured, treescape in the region.

There is also a significant decrease in the plant variety of section D as it only has 26 unique species while the other sections average 48.33 unique species as shown in figure 32. This would suggest that maintaining the biodiversity of the area is not a priority, instead it seems like they are actively limiting the number of plants in the region.

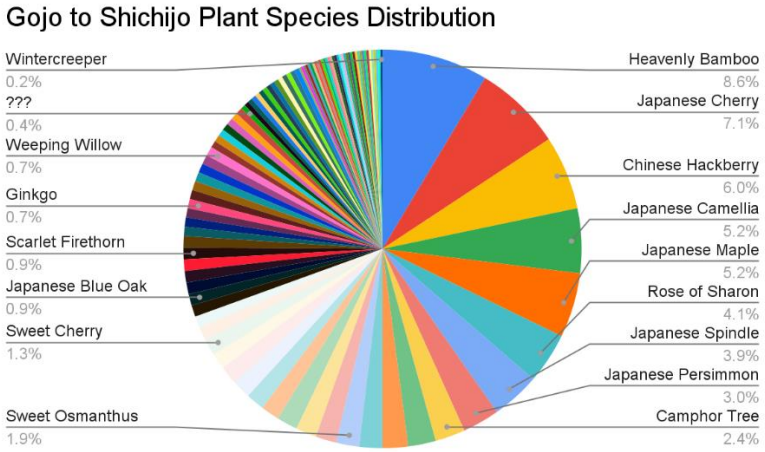


Figure 33: Plant Species Distribution Between Gojo and Shichijo

As previously mentioned, 100 unique plant species were identified along the canal. Out of these species the most common are the Heavenly Bamboo making up 8.65% of the plants in the area, the Japanese Cherry Tree with 7.1%, and the Chinese Hackberry with 6%. Although Heavenly Bamboo is very common in the region, the most recurring species in the area are trees and large shrubs. Out of the ten most common trees, only two bear fruit while the others are aesthetic. To better understand the distribution of plant species you can refer to figure 34 below.

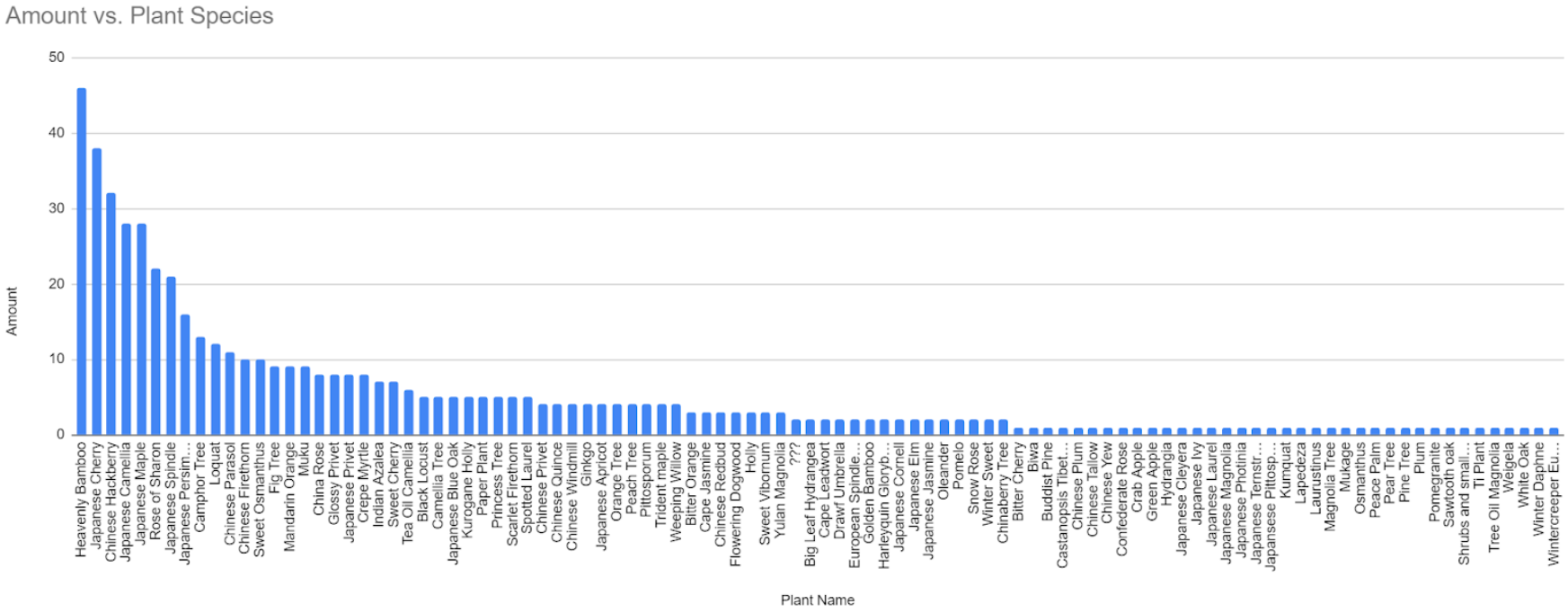


Figure 34: Number of Plants per Species

4.3.3 Vegetation Differences Between Kikuhama and Region Upstream

After analyzing the trends that took place in the upstream and the current condition of the downstream region, we were able to draw parallels between them. This enabled us to gain insight into what the future might hold for the Kikuhama treescape.

One of the things that stand out the most is the significant lack of biodiversity in the upstream region, data obtained from the 2022 Community Centered Activity Along the Takase River IQP group, when compared to the downstream region. The best way to see this is by looking at both figures 29 and 33. These pie charts show that the region between Gojo and Shijo has 27 unique plant species whereas the Kikuhama region, between Gojo and Shichijo, has a total of 100. This difference in plant variety is the result of multiple factors between the two areas.

One of these factors is the difference of the two neighborhoods, with Kikuhama being mostly residential with some businesses while the area upstream is commercial. This means that the way residents interact with the canal in Kikuhama is different. They feel much more connected to the nature of the canal, which in turn makes them feel that they have the right to make changes. Evidence of this was given by one of our interviewees who has lived here for 72 years. He claimed that “Kyoto city planted most of the plants along the canal” but that many people, including his father, also planted trees in the past. As a matter of fact, these interactions with the canal still take place to this day with four out of seventeen survey respondents claiming they have planted a tree in the canal.

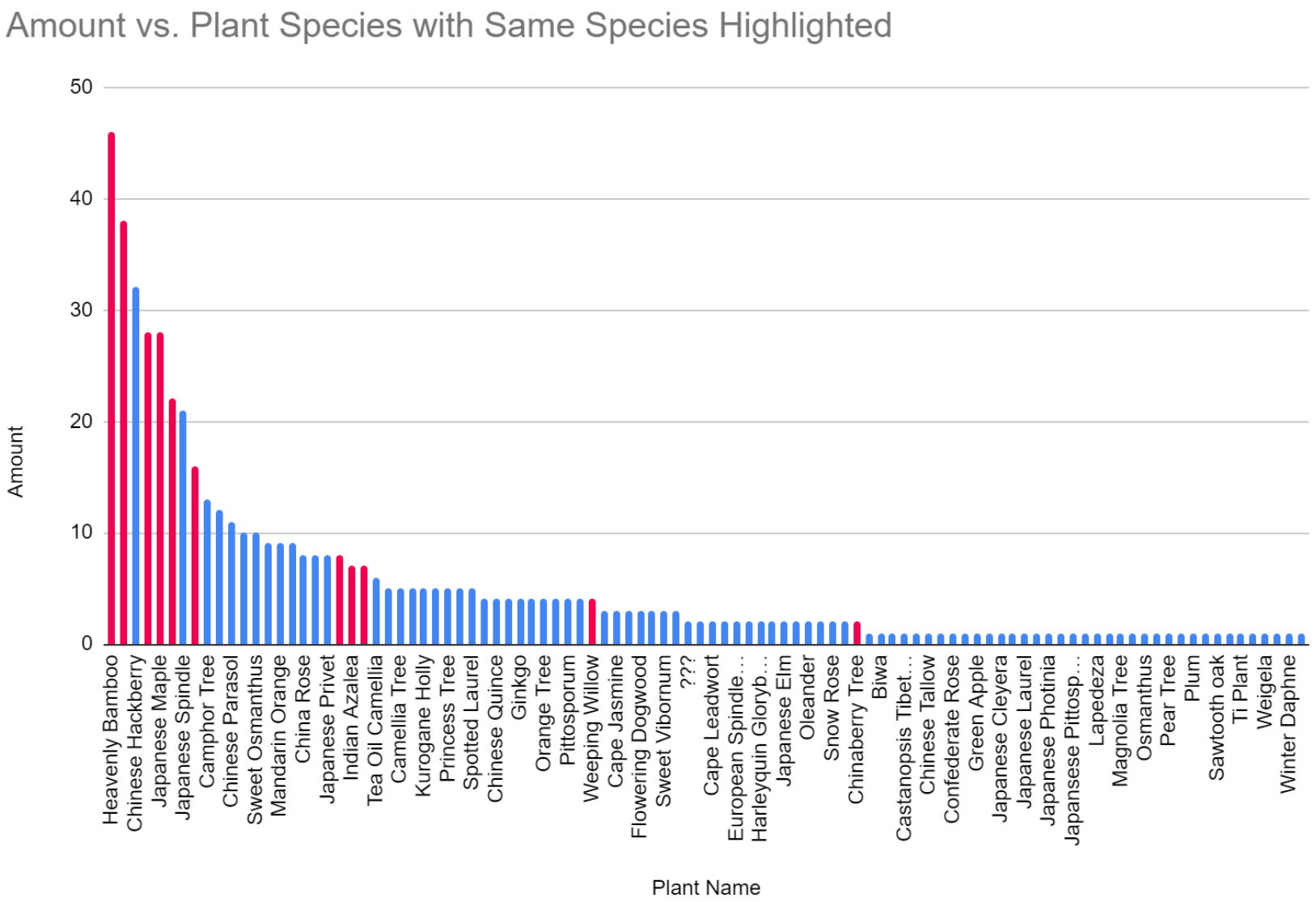


Figure 35: Number of Plants per Species with Highlighted Species

Since both the government and the local community have planted trees in the region, we can understand the reason behind the plant variety in Kikuhama. Out of the 535 plants identified in the downstream region, 38.5% of plants are species that can be seen in the renovated section of the river. The species found in both areas are some of the most commonly recurring plants in the Kikuhama region with the exception of crepe myrtle, indian azalea, and sweet cherry. This is better illustrated in figure 35 above.

Figure 36: Evenly Spaced Trees

Figure 37: Example of a fruit bearing tree

The 61.5% of plants with different species are what distinguishes this area from any stretch of the upstream canal. It makes the trees, as one of our interviewees said, “feel natural even if they are planted.” The term natural is ambiguous but in this case the resident clearly uses it to describe the vegetation along the canal as not made, or caused, by humans. Although this is not true, it is the feeling conveyed when we compare Kikuhama to the more structured and evenly spaced trees of the upstream region - shown in figure 36. In nature there is great biodiversity which is closely resembled by the sporadic placement of different species along the canal.

From the data we have gathered regarding the vegetation biodiversity in the downstream area between Gojo and Shichijo, it became apparent that there is a vast difference in species diversity between the downstream and upstream regions which can be seen in figure 33. Our team collected data from the downstream area and discovered that 85.5% of the vegetation in this region comprised approximately thirty-one different plant species. Compared to the data our team received from the Takase Community Project team on the upstream plants’ biodiversity, there is a much lower plant diversity in this section, where about 85.5% of the total plants are composed of six species. Furthermore, comparing the plant data between the two sections, in the downstream area, about 17% of the vegetation is fruit-bearing, with the rest being non-fruit-bearing plants which we categorized as aesthetic plants (figure 38). On the other hand, the upstream area has no fruit-bearing plants whatsoever.

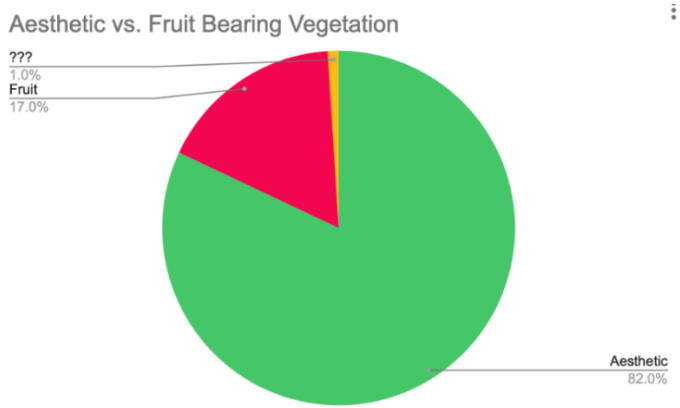


Figure 38: Aesthetic vs Fruit Bearing Vegetation Data Between Gojo and Shichijo

4.4.1 The Current Plan

4.4.2 Predicted Changes in the Local Vegetation

Figure 39: Tree Marked with a Pink Tag for Saving

Based on the official engineering documentation of the project, we know that all trees marked with a yellow or pink tag (figure 39) are going to be protected in the restoration. With this in mind, we made sure to record whether or not a tree was marked. If we consider that all unmarked trees will be cut during the restoration efforts, only 20% of the current trees would remain. Nonetheless, since section D already has been cut we have to exclude the trees from that section, indicating that 74.4% of the trees will be cut as shown in figure 40.

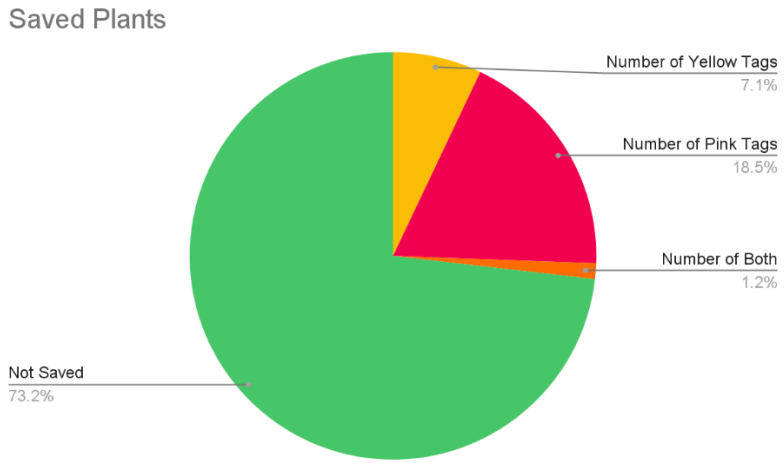


Figure 40: Tagged Plants Distribution

We then used this data to create a map of how the local vegetation would look like if all the non-marked trees were to be cut (figure 41-43). In this map, trees that would be theoretically saved are colored green and the trees that would be cut are colored gray. Again, if this were to happen, it would mean that only 25.6% of the plants would remain. See maps below. Section D is not included due to the restoration already being seen in this area.

Figure 41: Remaining Trees Section A

Figure 42: Remaining Trees Section B

Figure 43: Remaining Trees Section C

If only the plants that match the upstream species were to be kept 38.5% of the plants would remain, but the number of species would decrease to 11 from the 100 if they were to cut the untagged vegetation. Regardless of their approach, it is clear that it would be a significant change to the region.

Figure 44: Tree Map with Same Species as the Upstream Region (Section A)

Figure 45: Tree Map with Same Species as the Upstream Region (Section B)

Figure 46: Tree Map with Same Species as the Upstream Region (Section C)

Figure 47: Tree Map with Same Species as the Upstream Region (Section D)

4.4.3 Residents Perception of the Canal Vegetation

From our interactions with the residents and the survey responses, it is apparent that most residents only have a strong opinion on the type of vegetation along the canal if the plant has a special connection to them. However, most residents do care about the look of the canal itself. From the interviews and long survey responses, residents have said that the canal is littered with leaves and trash and want it to be cleaner. Vegetation-wise, most locals like the current look of the canal. From one of the surveys we collected, the respondent said, “It would be nice if the current atmosphere were preserved without being too neat.” This refers to the current natural look of the canal between Gojo and Shichijo, unlike the artificial look in the upstream area, where trees are spaced out in similar proximity. However, a large number of the locals are also open to the look of the upstream as previously mentioned.

4.5.1 Conflict

When the Takase restoration project resumed, the government’s final plan for the project was proposed to the residents of Kikuhama. According to a resident we interviewed, residents were never formally informed about the restoration. Most residents learned about the restoration plan from different means. About 35.3% of the residents from the survey respondents claimed that they found out about the restoration from a community meeting, 35.3% percent found out from other people telling them, and the rest found out from a newspaper or bulletin board. With the lack of information about the government’s plan for the restoration, conflict arose when the locals discovered the government’s intention of cutting down a large number of plants along the canal, as mentioned in section 4.3.1.

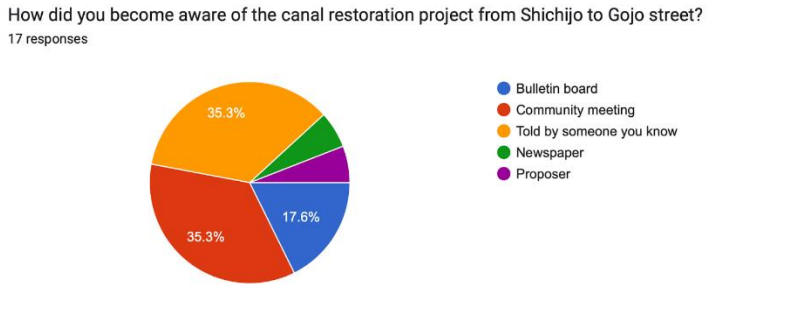


Figure 48: Survey Restoration Project Awareness Question Responses

Revisions to the project were made due to the locals' disagreement. A new plan was proposed and approved; however, many trees were still planned to be cut. From our conversation with the Kyoto Construction Bureau (Refer to *appendix J* for full transcript), the government claimed that the removal of trees is decided based on the risk the tree poses. They hired different gardening experts to assess the trees to decide which should be removed. The third project version will be proposed to the residents in December 2022. We also learned that the city hired three companies to do a tree assessment, one of them being the Sora Botanical Garden and two other unidentified companies. With the locals’ opposition, the government is taking strides to save trees and appease the locals. Once the government received an assessment from the different companies, they reassessed the project plan and decided which tree should be cut down or saved. This new plan will be proposed to the residents in the form of an information session before the restoration moves further downstream. Our team will not be able to attend this information session as it will occur after we leave Japan.

Furthermore, from our conversation with the Kyoto Construction Bureau office manager, he claimed that the look of Kikuhama after

restoration would be different from that of the upstream region. For the plants the city planned to remove, they will be replacing them with strictly aesthetic plants rather than fruit trees, which is similar to the approach of the upstream restoration. The specific species are yet to be decided; nevertheless, given that upstream biodiversity consists of all aesthetic plants of similar species, it is expected that the government's approach for the restoration in the downstream area is similar to their approach upstream.

4.5.2 Perceived vs. Real Risk:

The group conducted a tree risk assessment in the manner previously described in our methodology chapter. We then collected survey and interview responses with the intent of gauging the perceived risk of the trees, in the eyes of the residents. The data below shows the relationship between the real vs the perceived risk that the trees pose. If the local residents feel a tree is risky and if our general assessment of those trees prove this is the case, then it is beneficial for it to be removed or fixed in some manner.

4.5.3 Survey Responses

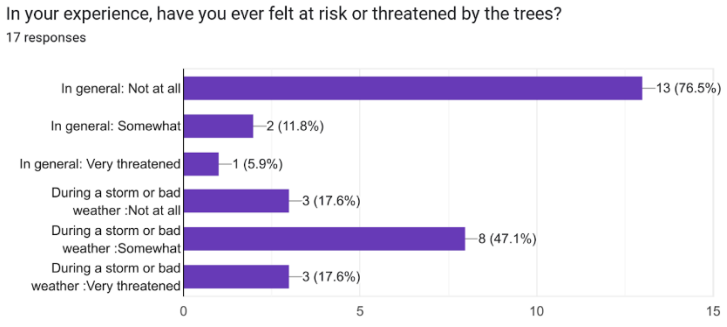


Figure 49: Response Data for Survey Question 5

The survey contained a question regarding how the locals perceive the risk posed by the trees. The results of this question can be viewed above in figure 49. Based on this data, we can see that most of the residents believe that the trees do not pose any risk under normal circumstances, with only three survey respondents disagreeing with that statement. Nevertheless, when there is a storm, this sentiment changes and the residents express a concern over the trees in the area. Through interviews and short answer responses, we learned that it is not uncommon for trees to fall during storms as some have fallen in the past. We learned of this through an interview conducted with a local resident, where they stated that at least one tree falls every ten years. There have also been other testimonials associated with the risk the locals feel towards the trees. For example, in another interview this local told us that she feels great danger from the trees as a branch has fallen in front of her house before. Due to this the tree in front of her house was removed (figure 50). These testimonials allow us to now relate the risk that the locals feel from the trees to the actual risk they pose, according to our risk assessment.

Figure 50: Image of tree that was removed after falling

4.5.4 Tree Risk Assessment

The method we utilized for the tree risk assessment was initially developed for more Eurocentric countries. However, we needed to adjust what constituted a risky tree because Japan exhibits different types of natural disasters than the majority of Europe, including typhoons and earthquakes. Typhoons bring extreme winds which can knock over already unstable trees, while earthquakes can violently move the ground, uprooting and knocking down trees in the process. To account for this, we have determined that a tree with a stability score of six and above will be risky to its surroundings.

For the trees that were deemed "risky" all but four "passed" the hazard assessment. Passing the hazard assessment requires a score less than 6. Therefore, it falls on the stability assessment to determine if the tree itself poses a risk to the surrounding area. In this instance, all but one failed the stability assessment. A portion of the data from the tree risk assessment is plotted below in table 7**.** Refer to *appendix K* for the full data.

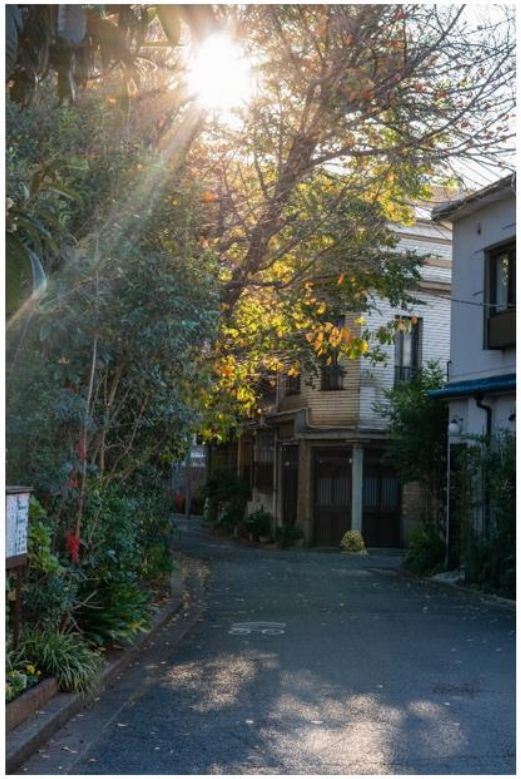
Table 7: Tree Risk Assessment Spreadsheet

#	Tree ID	Hazard Assessment				Estimated Height	Stability Assessment				Health Assessment
		FP	SDP	TR	Score		HC	CRC	CAIC	Score	THA
1	A5	1	1	1	3	6m	2	3	3	8	Dead branch
2	A21	1	1	1	3	5m	2	2	2	6	Powerline
3	A35	1	1	1	3	6m	2	3	2	7	Powerline
4	A43	1	1	1	3	11m	3	3	2	8	Powerline
5	A46	1	1	1	3	13m	4	3	2	9	Powerline
6	A50	2	2	1	5	8m	2	2	3	7	Trunk Caivity
7	A72	2	1	2	5	11m	3	3	3	9	Powerline/Houses
8	A73	1	1	2	4	11m	3	2	3	8	Powerline
9	A90	1	1	1	3	10.5m	3	2	1	6	Powerline
10	A131	2	1	2	5	9m	2	3	3	8	Powerline/Leaning
11	B1	1	1	1	3	10.9m	3	3	2	8	Powerline
12	B27	1	1	2	4	14m	3	3	3	9	Leaning/Powerline
13	B49	1	1	1	3	10.5m	3	2	3	8	Powerline
14	B51	1	1	2	4	12m	3	4	1	8	Powerline
15	B86	2	1	2	5	7.5m	2	4	3	9	Powerline/Leaning

For a tree to fail the stability assessment, the risk from the height class (HC), crown ratio class (CRC) and the crown asymmetry index class (CAIC) must add up to more than 5. Each tier in each class adds an extra point to the final stability score. The tiers for each class can be found in the methodology chapter, table 5.

The majority of the trees analyzed intersect the power lines, posing an extreme electrical risk during storms and high winds ("TREES AND POWER LINES," n.d.). Many other trees have other hazardous elements, some of the trees are in contact with houses or have cavities in the trunk. These cavities remove from the stability of the tree, meaning that they are more likely to fall over in the presence of strong winds or other natural disasters. See figure 51 for example.

Trees Touching Power Lines



Trees Touching Houses

Tree with a Cavity in The Trunk

Figure 51: Various Types of Tree Hazards

This data was then plotted on a map of the canal. The trees that are placed as risky are colored either yellow or red, in accordance with the same spreadsheet mentioned above, table 7. The trees that did not receive the risk assessment are in greyscale. See figure 52 below for the map, a more detailed version of each map is available in the *appendix L*.

Figure 52: Tree Risk Assessment Map Section A-D

From the map above it is clear that risky trees are positioned close to houses, or in an area that will block roads if they were to fall. It is important for these trees to be removed, or stabilized, for the safety of the residents and buildings in this area.

4.5.5 Tree Lean Assessment

From the data above, there is considerable risk associated with some of the trees in the area. Based on the survey handed out, it is clear that the locals do not want to see lots of plants and trees removed from the canal, see figure 53 below. Based on the survey responses and interviews conducted, the best course of action would be the removal of large, hazardous, trees whilst leaving the majority of healthy trees.

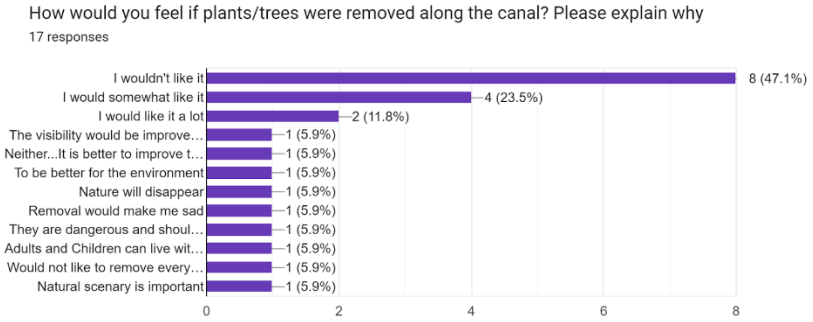


Figure 53: Survey Responses for Question 8

To identify trees that can be fixed, to reduce the removal of trees in this area, a tree lean assessment was performed. The data for trees which exhibit excessive lean are placed below in the table 8 **(***appendix M***)**. As shown, many of the trees are not excessively leaning, therefore they can be fixed. This will allow for the removal of truly hazardous trees, whilst allowing for the locals to feel more at ease. This method will also allow for more trees to be kept along the canal. This will satisfy the locals because they do not want the municipality engineers to remove most of the trees along this section of the canal

Table 8: Tree Excessive Lean Data

#	Tree ID	Excessive Lean? Of Tree
1	A5	No
2	A21	No
3	A35	No
4	A43	No
5	A46	No
6	A50	No
7	A72	Yes, but fixable
8	A73	No
9	A90	No
10	A131	yes
11	B1	No
12	B27	No

Figure 54: Detailed Version of Hotspot Map

4.6.1 Community Interactions Map

From the observation our team conducted, we analyzed the data and displayed the community interactions with the canal on the hotspot map. This map put an emphasis on different sections along the canal where the most traffic occurred. It also displays locations of popular hotels, restaurants, cafes as well as popular places that people took pictures at. Furthermore, the map also highlighted places along the canals where the local residents cleaned up leaves, had potted plants, or used shrines

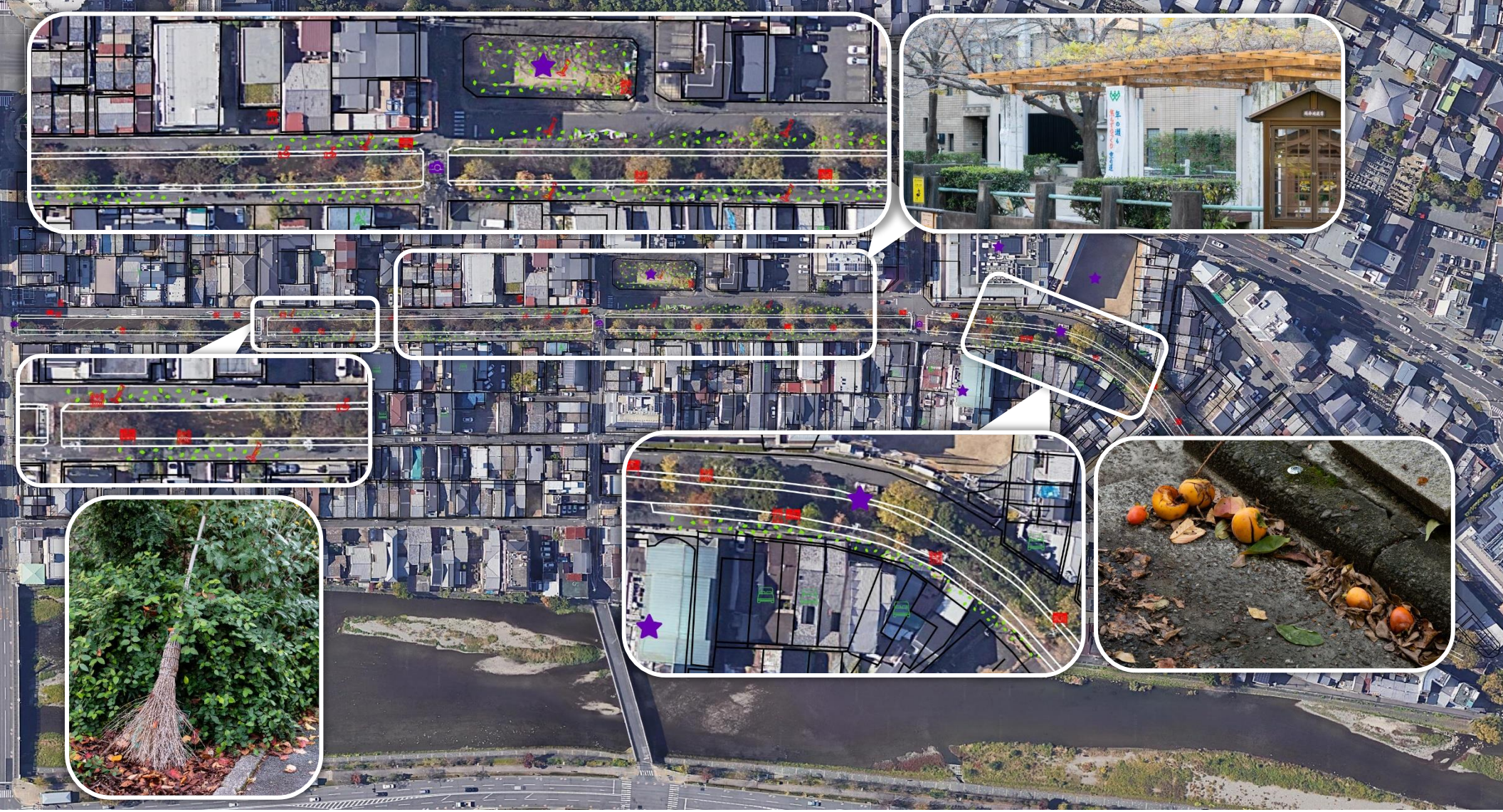


Figure 55: Hotspot Map with a Focus on Leaf and Fruit Litter

Throughout our observations, we saw that a lot of people spent time cleaning in and around the canal. At the time of our observations, it was autumn and the trees along the river began to shed, depositing all of their leaves and some fruit all along the roads and a local park. We observed that residents and workers at the local hotels, would go out and clean the leaves every single day, even on the weekends and holidays. The leaves don't only fall into the road, but also into the Takase River. Since the water level of the river is so low, the leaves will get stuck and clump into big patches. The patches also include trash and other debris that people had thrown into the canal. As a result of these observations, we decided to interview some of the local residents that clean the leaves, in order to gain an understanding regarding their feelings toward this chore.

Figure 56: Leaves Piling Up Inside the Canal

Many of the residents mentioned that they disliked how the river looked due to the compilation of trash and leaves. Many also addressed their concerns for the low level of water. However, from our observations very few people actually went into the river to help pick up the debris. For those of the residents that do go out and sweep the leaves, they expressed how they only clean the area because no one else will, and that it is important for them to keep public spaces clean. None of them demonstrate their enjoyment for this task and most reported that it was annoying and bothersome.

Figure 57: Hotspot Map with a Focus on Hotels

All along the canal there are hotels and guesthouses that are occupied by tourists. In our observations, we witnessed many tourists walking up and down the canal with their luggage, which created a lot of noise. We also noticed that the increased number of tourists in the area also increased car traffic along the canal. Given the narrow roads in a residential area, cars driving up and down the canal to drop off tourists at their staying destination, makes it inconvenient for the locals that used the roads. In many instances, we have observed pedestrians and bicyclists stopping on the side of the road or going onto people's property to make space for taxis to pass by.

Aside from the increased traffic in the area, tourists also add noise and litter which have raised concern for some residents that live in the area. This was referred to as “tourist pollution”, a term used by a local resident that our team interviewed. According to this resident, who has lived in Kikuhama for 72 years, there is an increase in “passerby”, which include tourists, making it more inconvenient for the local residents to go out and meet each other. He also added that tourists have bad manners and the traffic they bring made it difficult for residents to maintain the cleanliness of the street.

Figure 58: Car Occupying the Entire Road

Figure 59: People Cleaning Leaves Along the Canal

Leaf piles that were gathered by residents are ruined quickly due to taxis driving by, creating wind that turns neat leaf piles into a mess. Although this resident shows strong feelings towards the tourists in the region, he also claimed that they are very important for the local businesses. Detailed transcript of the interview can be seen in *appendix N* for Interview 1 and *appendix O* for Interview 2**.**

Figure 60: Hotspot Map with a Focus on Restaurants and Bars

There are many restaurants all throughout the region that appear to utilize the canal for their benefit. We observed that some of the restaurants used the river for visual appeal for their customers. At the Kyoto Beer Lab, there is a little wooden deck right on the canal. There were many people that would use this to sit on and enjoy the view of the canal. We also noticed many people would utilize this space when the restaurant was not opened, demonstrating the benefits this type of seating brings to a business. As another example, the murmur café has seating with tables outside that many people used in order to look at all the trees along the river. There was even some passerby that would take pictures in front of the trees along the canal, demonstrating their influence. Since there were always people sitting outside in these areas, it seemed like this was a big selling point for these businesses.

A repeated occurrence throughout all the sections was that many people would stop to take pictures of the canal. Most of the people used the various bridges that span the canal to get a full look of the river. In particular, there is a bridge in front of a popular bath house called Ume-Yu. This business brings a lot of people traffic to the canal in order to see the bathhouse, but many of them also take pictures of the river. Another location used by the locals is the area that the boats would turn around when the canal was still in use. Currently, this area is marked by a plaque that tells some history of the canal and includes some seating. Many people stop to take pictures of the plaque and unwind after their day.

Figure 61: Hotspot Map with a Focus on Shrines

People use the canal in various ways including religious structures, walking their dogs, and commuting to and from work or school. All along the canal, there are a total of six different shrines that the residents use every day. From our observations, it appears that most people use these structures earlier in the morning by bringing different types of offerings such as fruit or drink. We also observed that throughout the day people would stop and pray at these shrines or bow when walking past it.

In addition to people using shrines, another common occurrence was people walking their dogs all around the canal. We noticed that it was not just the waterfront residents, but also the ones who lived on the side streets. The latter would choose to walk their dog along the canal. There were many instances when people walked their dogs and would stop to talk to each other. There was an instance, when we observed a younger resident that rode her bike along the canal to pet all of the dogs and talk to the people. This demonstrates the importance of the canal, and how it acts as a bond that connects the community together. Without it, there would not be as many interactions between the locals as they can walk their dog on a different street instead of doing it along the canal. This places an emphasis on the importance of the canal and why preserving the natural aesthetic of the place is crucial.

Figure 62: Hotspot Map with a Focus on Gardens

Another use of the canal that we noticed is that many people use the space along the canal to have personal gardens. Many of their vegetation appear naturally, including a mix of aesthetic and fruit bearing plants. The close proximity of these gardens to the river allows for the residents to easily take care of their plants as observed by one lady who used the canal as a way to water them. The potted plants are also a great way to bring families together. There was one elderly person that went out with their grandchild and spent about an hour talking about and taking care of the plants. From this observation, we believe that a lot of the residents must like the greenery because they have added more plants to the area.

4.6.2 Community Relations with Authority

Japanese citizens are notoriously reluctant to disagree with their government. This is evident in the scarce history of Japanese opposition and movements against authority. Their tendency to condone government decisions was observed during our project, when one of our interviewees stated that she "trusts" and believes in her government for projects such as this restoration. This culture of government compliance, evident throughout history, is explained in *An investigation of Japan's relationship to nature and environment*:

Much of this resistance has emanated from the depths of the culture itself. Citizen political opposition has little historical basis in Japan. The concept of citizenship itself is relatively new, as citizens' rights and responsibilities *vis a vis* the central government were only defined under the new Constitution in 1947 and not fully internalized until much later. Organized citizens' movements (CMs), *jumin undo*, did not appear in Japan until about 1960, and NGOs [Non-government organizations], *hiseifuku soshiki*, not until the early 70s. The concept of citizens' opposition was so new and inconsistent with Japan's traditional sociological framework that it was actualized out of necessity when environmental conditions began to seriously jeopardize public health. (Brecher, p. 108-109)

As stated, the Japanese people are very reserved in regard to publicly disagreeing with their government. We believe that this is the case for various questions we have asked during our interviews. This can be seen with one such testimonial where an interviewee answered that he would feel "sad" if the trees were removed along the canal, then stated he would be fine with trees being cut down for the sake of this restoration. The full interview can be viewed in *appendix P*. This response supports the claim that local Japanese people do not like to disagree with the government. Therefore, we have taken a more skeptical approach to analyzing everything stated from our interviews and surveys about the government. We have taken this into consideration with our analysis, and later on in our conclusions and recommendations chapter.

4.6.3 Local Opinions

Through the use of surveys and interviews, we were able to grasp some of the residents' feelings about the restoration project and what they would like to see done to the area. In our surveys, we found that 59% (10/17) of the respondents said that they would not like it if the trees were removed. Some of the reasons that were given included that they were concerned over losing nature and its effects on the environment as well as ruining the atmosphere of the area. This coincides with some of the interviews that our group conducted, where they said that they would be sad or do not think that the trees should be changed at all. 18% (3/17) of the residents that responded stated that they somewhat like the trees being removed listed that their main reason that they would want to remove the trees is the danger that some of them pose. Overall, there is a mix in the residents' feelings about removing the trees, but most of the residents would like to keep as many trees as possible.

When asked if they believe the trees add any value to their homes or businesses, 65% (11/17) said that they do not believe that the trees have any effect on the value. Of these 11 people, 36% (4/11) said that they would not like the trees to be cut while the same number of people said the opposite, stating they would like for them to be cut. Since there are mixed opinions, it appears that the value the trees could add to their buildings isn't a deciding factor to whether or not they would like to keep any trees. There were two respondents that answered that the trees both add and remove value from their house or business but would still like to keep the trees. They explained that although the

leaves and falling branches ruin the area and make it very difficult to maintain, the trees make the landscape nice adding much more value. Even though these were a minority in our survey responses, many others could have a similar opinion that even if the trees make their lives more difficult, they can't sacrifice the value that the trees bring.

Lastly, we asked for the respondents to write what they would want to see done to the canal as an open response. The overall consensus was that the residents want the area to look "beautiful". Yet, there were some differences in opinions on how they think this should be done. Some people requested the addition of more cherry blossoms to the area while others want the current scenery to be maintained. Another common theme among the answers was that the water level and flow needed to be increased. The problems the residents have is that the leaves which fall into the river tend to pile up, along with other trash such as bottles and cans. With an increased water flow, the leaves wouldn't pile up as much as they do and would improve the aesthetic of the area. Overall, the residents want a more aesthetically pleasing environment with beautiful trees and a full and flowing river. Survey responses can be found in *appendix Q*.

4.7.1 Local Trends

A trend that is apparent in the region is a decrease in residents living in the area. People leaving as well as the population decrease in Japan has caused many houses to go unoccupied. Some of these unoccupied houses are then bought by companies and turned into guest houses and hotels, leading to the decrease in residential buildings in the area. In a previous IQP done in 2021 (Kachadoorian, 2021), they mapped out all of the different types of buildings throughout the Kikuhama neighborhood. Their project extended upon a project that was done in 2019 by a different IQP group and were able to compare the changes in building types in the area. In the first project in 2019 (Klaimen, 2019), they determined that a total of 61.5% of the buildings were residential. Two years later, the second project determined that the total residential buildings were only 41.2% (Figure 63).

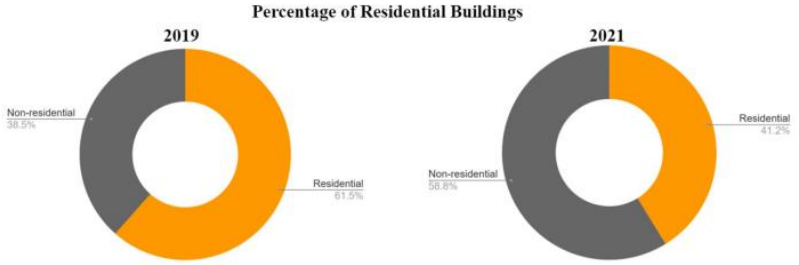


Figure 63: Previous IQP Chart of Change in Residential Buildings

Another driving force behind this exodus is the large inheritance tax in Japan that often discourages any family members to inherit the property. We have discussed this in our background chapter, but it essentially means that if a family would like to stay in the same house, the inheritors would have to incur costs that could sometimes surpass the house's worth. This heavily discourages people from attempting to preserve their parents and grandparent's homes. According to one resident, another reason many people are leaving the area is due to the limited space within the houses for the amount of people living there.

With the decrease in residents over the year, along with the increase of hotels and guesthouses, thus bringing in more tourist; many residents have expressed their dislike for this trend. From one of our interviews, the residents complained about the tourist pollution and their bad manners, claiming that it is harder to go out and meet other Japanese locals. One other local resident also claimed that the area used to be a lot quieter, and although she was not being direct with her responses, she stated that she wants to live her life quietly. The

changes in local population and buildings are intertwined and appear to have an effect on each other.

4.7.2 Google Street View Comparison

In figure 64, it is visible how some of the buildings have changed in the area recently. In the first picture, an older building that appears to have been a local business was removed and replaced by a parking lot and large apartment building (brown) in the second picture. Another business was also torn down to build another apartment (dark gray). This has changed the look of the area and allows more people to live in the area than before. Although, since some residents moved away from their houses in Kikuhama in order to have more space, these buildings are not the type of housing that the residents are looking for.

Figure 64: Example of Residence Turning into Housing

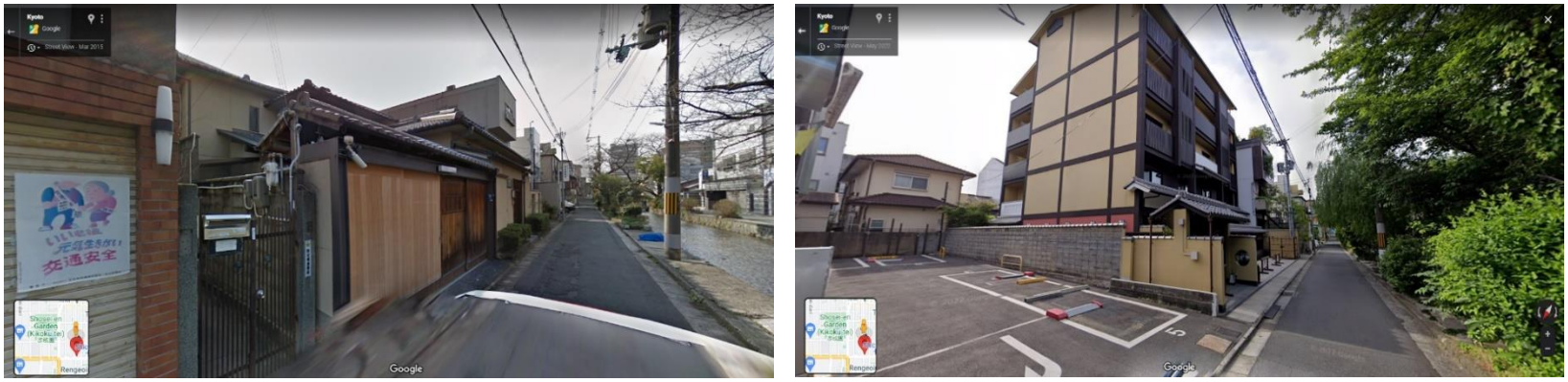


Figure 65: Example of Business Turning to a Hotel

Figure 65 demonstrates the change in the area that focuses more on tourists. Starting in 2015, multiple houses were torn down and then turned into hotels. The two sister hotels that have been developed over the past seven years, are only two buildings away from each other. These two massive three-star hotels are a drastic change to the look of the neighborhood and attract a lot of tourists. These hotels not only bring a lot of tourists, but they also bring through a lot of taxis adding to traffic and noise in the area. This stems from the hotels and guesthouses but also from the new local businesses. One of the new businesses, the Kyoto Beer Lab, attracts a lot of tourists to the area. The hotels are very beneficial for local business and a resident mentioned that although he was bothered by all the tourists, they were essential to the economy of this region. These demonstrate the changes that are occurring throughout the area, however, many of the changes are not this drastic, such as with many of the guest houses that have been added to the area. Many of the guest houses were renovated to have a more modern look but still maintain the general look of the building before restoration.

As a part of the Yamauchi Foundation's revitalization plan, they took down this apartment building, as shown in figure 66**.** There are plans to build structures around the area for many locals to use such as artists as well as for community building through restaurants (Amp News, 2022). This is just one site that has been changed so far for their plan. As of May 2022, the

Yamauchi Foundation has purchased twelve sites, including land and buildings for revitalization that were previously used for the mafia and as a red-light district. As of when our research was over (December 2022), the only part of their plan to be finished was the opening of the Marufukuro hotel, which was renovated at a former Nintendo building. These pictures demonstrate the start, but it has already drastically changed the look and feel of the area.

Figure 66: Housing Being Torn Down for Yamauchi Revitalization

Chapter 5: Conclusions & Recommendations

Conclusions:

After spending seven weeks familiarizing ourselves with the people of Kikuhama, we have a better understanding of the restoration and its possible repercussions. Our survey responses and interviews have shown that although people approve of the cutting of the trees for the sake of the restoration efforts, the broader question of 'success' in this restoration project is more complex.

In Kikuhama, and Japan as a whole, people are usually reluctant to defy choices made by the government. Twelve out of eighteen survey respondents said that they would not like or would feel sad if the trees were cut. Nevertheless, when asked their thoughts about the restoration they strongly supported it. One interviewee said that "if the government thinks it should be done then it should be done." At first glance these contrasting responses convey that the residents do not care about the changes in the treescape but that couldn't be farther from the truth. The complex relationship between the Japanese citizen and government leadership made it extremely difficult for the residents to express their true feelings. Nevertheless, our group is confident that people in this community do care about the plants and that they would be happy if the trees could be preserved.

We also learned that when it came to the restoration, people were mostly interested in the repairs of the canal stones. Currently they find themselves in disrepair, poorly stacked, and displaced by roots. The volume of water in the canal also suffers from the damage, as it has been reduced in order to minimize leaks, something that the residents complain about. All our field work indicates that the people in the area see the tree cutting as a consequence of the restoration and not as an element of it. Only four survey respondents claimed they would prefer if the trees were cut because of their fears of the trees falling down. On the contrary, other interviewees said they would like the "natural" look of the canal to remain and that the restoration would make them disappear. Nevertheless, the tree risk is not the main problem in the eyes of the residents.

The main problem people currently have with the canal is the amount of trash and leaf litter in the area. Leaves naturally fall from the trees and accumulate on the streets and inside the canal. The leaves that fall from the trees are swept daily by the residents. This became a daily chore for them, and even though some rake the leaves alongside their friends none of them enjoy doing so. Matters are even worse when it comes to leaves inside the river as they are hard to reach and collect, particularly for older people. The second issue that people are worried about is the instability of the trees. Many trees have been removed because they were improperly trimmed causing excessive lean and risk. Some trees have fallen in the past which makes many of the citizens worried, especially during storms. Our group believes that many of these trees can be trimmed to improve the safety of the residents. For the satisfaction of the people of Kikuhama both of these aspects should be addressed while minimizing the number of trees that are removed.

The last major risk that has to be addressed is the potential damage to the foundation of houses due to water leaks of the canal. Engineers are particularly worried about the sandy geomorphology of the region and how water infiltration would cause damage to nearby houses. This issue seems to be solved by their approach to restoration - adding a plastic liner to prevent water leakage - but the tree roots are still in the way. We discuss this later in the recommendations section but a way

to avoid trees from being cut would be to shift the canal walls further into the canal, giving space to the trees.

From analyzing the restoration in the upstream areas of the canal we've identified trends that will likely affect the downstream region. The main one of which is the reduction of biodiversity and changes in the treescape to make it look more "organized". Nonetheless people in Kikuhama like the wild look, with one survey respondent saying that the natural look was important to him and another saying nature will disappear. The change is almost certain since the government has confirmed that they will neither plant fruit trees nor match the species of the trees they cut. This will most certainly lead to the dissatisfaction of many residents.

The area is being developed at a considerable pace over the past years with buildings being torn down and the rise of hotels and tourists in the region. These new buildings do not match the character of the region and instead cater to tourists. This, in itself, is a problem since many residents have stated that the area has become louder and more littered with the increase of passersby and tourists. One resident told us in an interview that people coming to this area are rude and their presence has made it harder for them to go out and meet other Japanese residents. This tourist-oriented development could result in people moving away which would in turn only accelerate the process. The interest of the Yamauchi foundation in the area also supports the idea that the culture of this region is heading towards a big shift that will affect the residents. The foundation is heavily involved in the development of this area, funding the canal restoration and buying twelve plots of land since 2020.

Overall, the changes taking place in the region seem to have the locals as an afterthought. If no measures are taken Kikuhama will experience not only an aesthetic change but also a cultural one that will impact the lives of all current residents.

Recommendation:

From all the data we have gathered, our team concluded that the scope of the project is much larger than what we expected. Given all the stakeholders that the restoration project involves and the potential impacts it can have on the local residents in the long run, further research can be conducted. There is a lot of undeveloped potential for this project, where if properly executed, the government can achieve their goal of developing this area while maintaining its characteristics. In order to fully explore all the possibilities of this project and reach its full potential, our team has derived a set of recommendations for the project, which includes both technical and social aspects. These recommendations can be considered by the municipality of Kyoto and future IQP groups that come to do similar research in this region.

From the responses our team gathered from the locals, there are various things the residents want to see from the restorations. However, the city didn't communicate their intentions to the community effectively, so the project timeline was extended. As a result of the government's poor communication of the project plan, disagreements regarding the restoration plan emerged due to people's lack of understanding about it. Instead of having to make various adjustments to the project due to community disagreement, the project would have gone smoother if the planning process had involved the residents of Kikuhama. For future planning regarding the development of Kikuhama, we recommend that the government involves the locals

and their needs every step of the way to ensure a successful project outcome.

Another aspect of the project that we believe the government should take into consideration is their plan for replacing the vegetation along Kikuhama. The locals have expressed that they feel threatened by the trees from time to time, especially during strong storms when branches fall. Due to this reason, we recommend that large trees that pose risks to the local community be removed. However, this should be done with limitations. To preserve the look of this region, trees that do not pose a real risk or are risky but can be fixed should not be cut down. For the trees that get removed due to high risk, a new one of similar species should be replanted within close proximity of the old one, including both aesthetic and fruit-bearing trees. We recommend the government use this approach in order to ensure the biodiversity of the Kikuhama region remains as similar as possible to what it was before restoration.

In accordance with the methodology chapter, below is the combined map. The trees remaining are those which do not pose a risk and are not near root damage. There is no section D map present as that region has already been restored, so there is no need for tree removal recommendations as all the trees have been cut already. The orange trees present in these maps are those that do currently pose a risk but are able to be easily stabilized.

Figure 67: Recommended Trees to Save on Section A

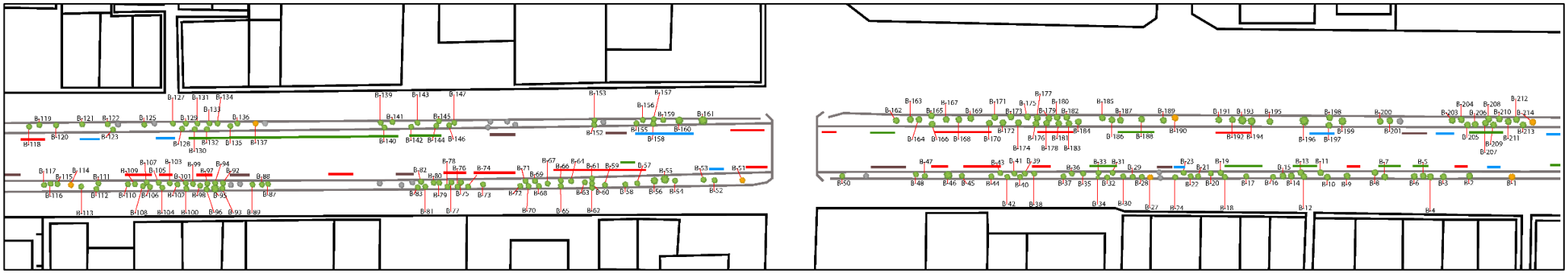


Figure 68: Recommended Trees to Save on Section B

Figure 69: Recommended Trees to Save on Section C

We recommend the trees outlined in the maps above to be kept when the rest of the canal restorations are completed. Our recommendations allow for 398 trees to be saved as opposed to only 129, which the government proposed to save. This allows for all of the risky trees, as per our assessment, to be removed, while allowing for more trees to be kept along the canal. This should increase the locals' approval of the canal restoration based on the survey responses we had received.

Although the government aims to distinguish the look of the upstream and downstream region, the approach they are currently taking does not align well with their intentions. We believe that the natural look of Kikuhama must remain as similar as possible after restoration. As mentioned in our findings chapter, the biodiversity of the upstream region is significantly lower than the area between Gojo and Shichijo; ensuring the biodiversity of the downstream stays the same will help preserve the natural landscape of this residential area. Another way to preserve the vegetation and address damages caused by roots in certain areas along the canal walls, pushing the walls from both sides toward the center might be helpful. By extending the walls on both sides towards the middle, the vegetation along the canal will have more space to grow. The plants' root systems will not be able to penetrate the new wall if it is properly installed with liners to prevent the roots from growing toward the water. This would also help preserve some of the vegetation the government wants to cut down because of its proximity to the canal.

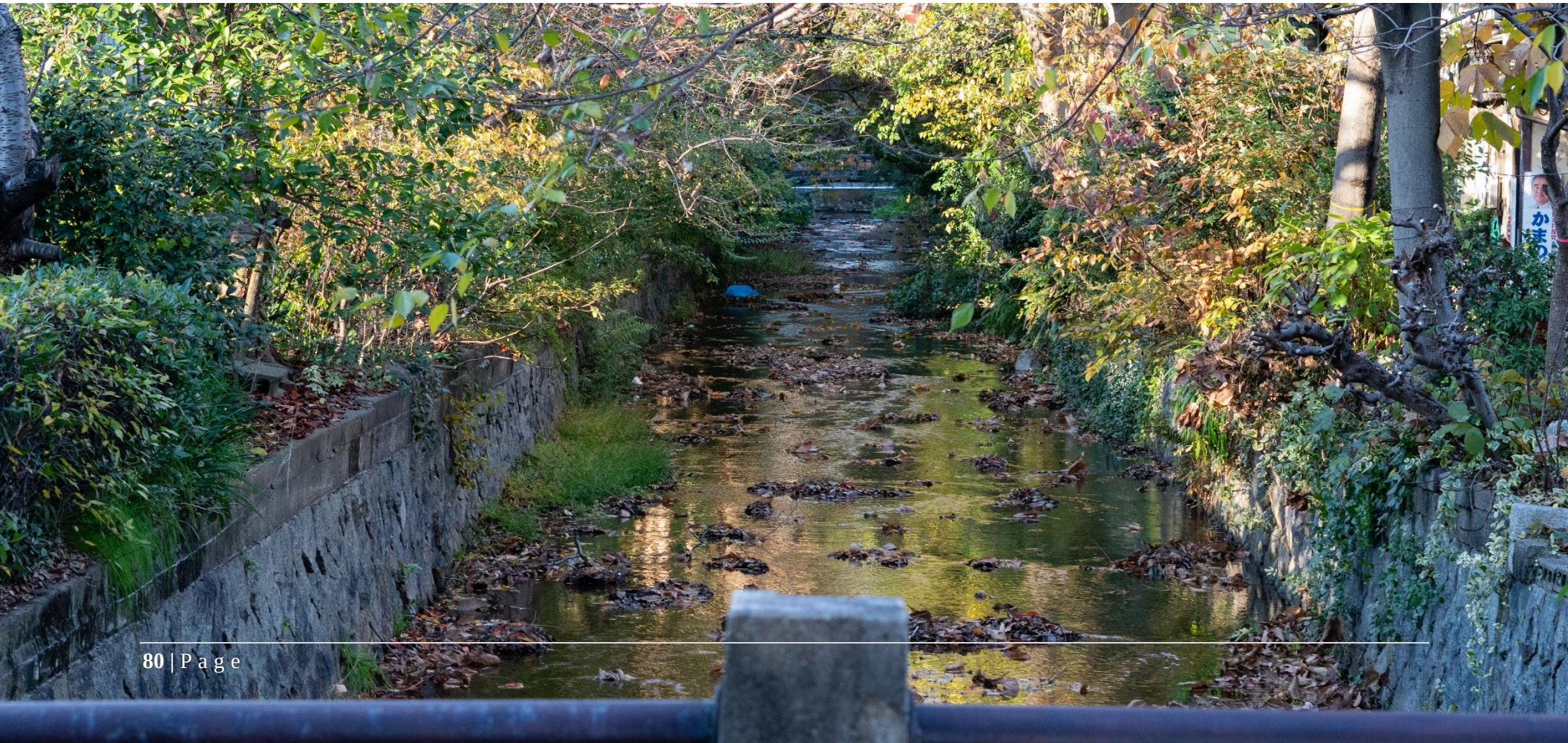
Besides the vegetation along the canal, residents also showed concern about the amount of leaf litter and trash in the canal. To address this issue, we recommend that the city add trash cans along the canal at busier parts to encourage passersby, especially tourists, to throw trash in the appropriate areas rather than litter in the canal. As for the leaf litter in the canal that forms piles, our team recommends that during the fall, when the most leaf litter is present, the city schedules cleaning times to clean up the leaves.

The community can also form groups to volunteer and clean the canal; however, due to the number of leaves present weekly, it might not be a feasible approach. Another point that was brought up by multiple residents is the water level of the canal. Due to the low water level, leaf and trash piles form easier, making the canal look dirtier and messier, which ruins the natural aesthetic of the region. Increasing the water level of the canal will improve the overall aesthetic of the area and will also make the residents happy as this is one of their hopes for the project.

For future IQP groups that do similar research or projects in this region, we recommend that the team look into ways to preserve the history of this region and tell the story of the area. This can be done through an interactive map that contains information of the trees, where the residents through the map can pinpoint to a specific section of the canal to view the tree that was there, the story behind it as well as views of the area around this tree. This map will allow the residents to look back and reminisce about the look of this region before restoration. Another approach that future teams can take is to recite the story of this area and tell the memories of the trees through building a website that walks the user through the history of this region, the changes it experienced over time, and tell the story of the plants along the canal. Being able to look back and view the memories the trees held and their connection with the residents will be extremely valuable to those that have resided in this neighborhood, especially after the changes that we expected to see in the foreseeable future.

With our limited time in Kyoto, our team was unable to complete all project-related tasks but instead focused on select areas of the larger project. That being said, we would change some aspects of the project

if we had the opportunity to repeat it again. Based on our experiences, we believe we should have spent more time studying the culture and lifestyle of the Kikuhama community before carrying out the project. It would have also been very helpful if our team had contacted community leaders prior to doing the survey and interview. With the help from the community leaders, we would've been able to learn a lot more about Kikuhama's residents, distribute the surveys more efficiently, and get more community engagement. Furthermore, the project could have been carried out more effectively because we would have been more known among the residents of this area which could result in them being more willing to help us when it comes to data collection. In addition to the things that we would have done differently, if we were to have more time here in Kyoto, we would've liked to attend the information session about the new project plan that will be proposed by the government this December. It would've also been very helpful if our team had learned more about the restoration plan before carrying out our data collection for the project. Since we approached the project with minimal information about the government plan, it was more challenging for our team to get many things done efficiently and effectively.



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Appendices:

Appendix A: Detailed Schedule for Observations

	11/01/2022 - 11/07/2022						
	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Monday
Shift 1 (6 am - 9 am)	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Dang Nguyen
	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci
Shift 2 (9 am - 12 pm)	Dang Nguyen	Dang Nguyen	Dang Nguyen	Dang Nguyen	Dang Nguyen	Dang Nguyen	Andrew Amkreutz
	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg
Shift 3 (12 pm - 2:30 pm)	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Andrew Amkreutz	Dang Nguyen
	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci	Henri Checcucci
Shift 4 (2:30 pm - 5:00 pm)	Dang Nguyen	Dang Nguyen	Dang Nguyen	Dang Nguyen	Dang Nguyen	Dang Nguyen	Andrew Amkreutz
	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg	Jacob Vosburg

Appendix B: Raw Observation Data

		AB				CD			
Day	Time	Activity	Location	Type of Interaction	Time	Activity	Location	Type of Interaction
Tuesday	6:04	Two men one 30 one 70 having a conversation on the street and touching the plants	upper section B	Human-Nature	6:12	walking 2 dogs	Upper bridge section C	Human-Canal
	6:08	70F walking her dog shitzu	middle section B	Human-Canal	6:14	cyclist	Section C	Human-Canal
	6:09	50F power walking along the river	AB	Human-Canal	6:16	walking up	Lower section D	Human-Canal
	6:25	People are not that hard to approach, spoke to a lady for a while about the takasegawa. Showed me the Nintendo hotel.	upper section B	Human-Human	6:17	walking dog	Upper section D	Human-Canal
	6:35	70F having a walk along the canal	AB	Human-Canal	6:20	walking black dog	Lower section D	Human-Canal
	6:38	30M running along canal	AB	Human-Canal	6:20	walking 3 dogs	Lower section D	Human-Canal
	6:48	70F walking with her Shibainu	upper section B	Human-Canal	6:20	cyclist	Section C/D	Human-Canal
	7:05	70F walking along the canal looking at the leaves	AB	Human-Nature	6:26	walking	Section C/D	Human-Canal
	7:07	Lady came from near the kamo river to the takase canal to walk her golden retriever	middle section B	Human-Canal	6:32	walking	Section C	Human-Canal
	7:20	A lot of people across but not along the canal, everyone is wearing suits	upper section B	Human-Canal	6:36	sweeping leaves	Upper section D	Human-Nature
	7:24	30F walking along the river	upper section B	Human-Canal	6:38	Walking 2 dogs	Section C/D	Human-Canal
	7:26	30F walking a mini poodle	upper section B	Human-Canal	6:46	walking 2 dogs	Section C/B	Human-Canal
	7:29	30M walking and smoking a cigarette along the canal	AB	Human-Canal	6:49	putting up posters on board	Lower section C	Human-Canal
	7:32	60F walking with a corgi	lower section B	Human-Canal	7:03	Age 50 female walking and looking at trees	Section C/D	Human-Nature
	7:35	50M sweeping the leaves along the canal	upper section B	Human-Nature	7:07	walking golden retriever dog	Section C/D	Human-Canal
	7:36	Two people sweeping the leaves on the park beside the canal	upper section B	Human-Nature	7:21	worker walking along canal	Section C/D	Human-Canal
	7:39	Kid walking to school via the takase river canal	AB	Human-Canal	7:22	walking labradoodle along canal	Section C/D	Human-Canal
	7:42	Raking the leaves by the canal, he was making sure to clean one of the drainage holes (not sure it is a drainage hole)	upper section A	Human-Nature	7:24	standing and looking at canal	Section D bridge	Human-Canal
	7:48	Two girls walking to school	AB	Human-Canal	7:26	2 guys staring and sitting by canal	In front of KI	Human-Canal
	7:49	One girl walking to school	AB	Human-Canal	7:40	cycling along canal	Section C/D	Human-Canal
	7:50	Girl walking to school ?	AB	Human-Canal	7:40	walking poodle	Section C	Human-Canal
	7:50	Woman raking the leaves in front of her house	upper section A	Human-Nature	7:44	walking dog	Section C	Human-Canal
	7:51	6 year old boy walking to school	AB	Human-Canal	8:40	walking along canal	Section C	Human-Canal
	7:52	50F walking around looking at the plants	AB	Human-Nature	8:49	sweeping leaves in front of shop	Lower section C	Human-Nature
	7:54	Dad walking with two young kids to school	AB	Human-Canal	9:00	No construction, due to rain?	Section D	
	7:55	Woman raking leaves in front of her house	lower section B	Human-Nature	9:03	middle age man walk along section B, C and D slowly: He's not rushing and take his time in the rain. 9:42 am He came back on the same road	B/C/D	Human-Nature
	7:57	Three older individuals raking leaves in front of the park	upper section B	Human-Nature	9:06	Elder woman sweeping leaves in front of her house: Corner house toward the middle of section C on the other side of the bridge looking from bath house	Mid C	Human-Nature
	8:06	Lady opened her barbershop	upper section B	Human-Canal	9:09	2 Lady strolls along section D and stopped to look at the construction area of the canal	Section D	Human-Canal
	8:07	Saw two individuals deciding to run along the river 2x20M	middle section B	Human-Canal	9:15	Middle age lady walks along section D and was looking at the canal as she walks	Section D	Human-Nature
	8:14	60M raking leaves in front of his property, then he proceeded to clean the entire street on the side of his property perpendicular to the river. At 8:28 he brushed a lot of leaves into the river. Stopped at 8:32	upper section B	Human-Canal	9:15	Couple walk along the canal and was looking around as they walks	Section B, C and D	Human-Nature
	8:26	Man walking to work along river	middle section B	Human-Canal	9:38	lady walks along sections D and C and was looking at the canal as she walks	Section C and D	Human-Nature
	8:26	Woman walking to work along river	middle section B	Human-Canal	9:40	Man ran to a big tree and stood under it to avoid the rain. He then smokes and looks at the canal in the process: across canal from empty lot next to bath house	Mid C	Human-Nature
	8:28	Woman walking to work and man walking along river	upper section B	Human-Canal	9:45	A lot of people come from the beginning of C and the end of D and exit via the bridge road between C and D	C/D Bridge	Human-Canal
	8:29	80F walking fox terrier	upper section A	Human-Canal	9:51	Old man stroll along the canal as he looks at the plants and canal	Section B, C and D	Human-Nature
	8:30	30F walking with mini doodle	lower section B	Human-Canal	10:08	A couple walk along the canal from D to B	Section B, C and D	Human-Canal
	8:34	Woman raking the leaves in front of the hotel and kept raking until 8:55	uppers section A	Human-Canal	10:20	3 ladies stroll along the canal from B to D section	Section B, C and D	Human-Canal
	8:40	40F taking care of the plants, trimming them. Section A	middle section A	Human-Nature	10:22	Couple walk along the canal and make quick stops to look at the scenery D to B area	Section B, C and D	Human-Nature
	8:45	Murmur coffee opened	middle section B	Human-Canal	10:32	big group of tourists 8 ppl came out of their stay area (left of 2 small temples) and start walking along the canal	Section C and D	Human-Canal
	8:52	A van came by to pickup an elderly lady with trouble moving	upper section A	Human-Canal	11:12	a man walk from section D to C looking at the canal	Section C and D	Human-Canal
	9:03	Dad biking with daughter in back water proof basket. Brought to preschool x2	Section A/B	Human-Canal	11:13	Ambulance stopped by C/D bridge	C/D bridge	Human-Canal
	9:04	Sweeping leaves in front house	Section B	Human-Nature	11:15	observed about 10 people walking along Section D. Entered/ exited from bridge between C and D: No special interaction	Section D-C/D bridge	Human-Canal
	9:05	Walking up from shichijo	Section A	Human-Canal	11:18	Paramedic carried an old man out of his house on sketcher	C/D bridge	Human-Human

45	Tuesday	9:05	Walking up from shichijo	Section A	Human-Canal	11:18	Paramedic carried an old man out of his house on sketcher	C/D bridge	Human-Human
46		9:09	Guy bikes up to house with groceries from shichijo	Section A-B	Human-Canal	11:35	Couple walked along the canal while looking at the plants and the canal	Section C and D	Human-Nature
47		9:13	Truck turned north from B. Maybe garbage truck	Section B	Human-Canal	12:05	walking	Section C	Human-Canal
48		9:15	Van from B-a parks in front of preschool with students	Section B-A	Human-Canal	12:08	phone call	Lower section C bridge	Human-Canal
49		9:16	Many bikes with waterproof cabins for children	Section B-A	Human-Canal	12:16	3 different groups of people walking	Lower section C bridge	Human-Canal
50		9:18	Came from main b bridge with kid on bike	Section B-A	Human-Canal	12:28	tourists walking up canal	Section C/D	Human-Canal
51		9:19	Came from side street near walk only bridge walking up towards b	Section A-B	Human-Canal	12:32	walking	Section D	Human-Canal
52		9:26	4 People walking up and down from b-a and a-b	Section A/B	Human-Canal	12:33	elderly walking	Down section D	Human-Canal
53		9:29	Man walked down b-a then crossed walking only bridge to west side	Section B-A	Human-Canal	12:38	couple walking	Up section C	Human-Canal
54		9:35	Biker from shichijo all through B	Section B	Human-Canal	12:45	3 people biking along canal	Section C/D	Human-Canal
55		9:36	Walking down from b-a	Section B-A	Human-Canal	12:47	elderly lady looking at bulletin board	Section C	Human-Canal
56		9:37	Resident biker bikes north and stayed in canal	Section A-B	Human-Canal	12:53	group of tourists walking	Section C/D	Human-Canal
57		9:41	There's a potted plant in the river at walk bridge	Section A	Human-Nature	13:03	a few groups of tourists walking to parking lot	Section D parking lot	Human-Canal
58		9:44	Taxi parked outside of hotel	Section A	Human-Canal	13:07	using payphone	Lower section C bridge	Human-Canal
59		9:50	Guy walking from a-b delivering mail	Section A-B	Human-Canal	13:12	elderly man walking down canal looking at trees	Down Section C	Human-Nature
60		9:51	Girl walking a-b with groceries	Section A-B	Human-Canal	13:15	taxi parked and driver taking a smoke	Upper bridge section C	Human-Canal
61		9:56	Tall van scraping on trees has to go slow	Section B-A	Human-Nature	13:20	using payphone	Lower Section C	Human-Canal
62		10:12	3 ladies walking together admiring the river	Section A/B	Human-Nature	2:43	Couple taking picture by of the bath house	Section C	Human-Canal
63		10:21	Lots of taxis have been parking at hotel	Section A/B	Human-Canal	15:02	Man Sweeping leaves by bathhouse bridge	Section C	Human-Nature
64		10:26	No foot traffic either side	Section A/B	Human-Canal	15:22	Man taking picture of the bath house with some other people	Section C	Human-Canal
65		10:34	Couple people walking both directions	Section A/B	Human-Canal	15:45	an elder woman stroll along the canal for exercise. Cross path with her 2 times	Section C and D	Human-Canal
66		10:39	Guy walking from b to shichijo	Section B-A	Human-Canal	16:22	Old man sweeping leaves in front of his house 3 houses down from Ki.	Section D	Human-Nature
67		10:45	Delivery truck parked on canal where no trees	Section A	Human-Canal	16:53	Elder woman walk very slowly by Canal as she looks at the plants and Canal (section C)	Section C	Human-Nature
68		10:48	Guy walking from b bridge to shichija with suitcase	Section B-A	Human-Canal				
69		10:57	A couple walking together from a-b	Section A-B	Human-Canal				
70		11:00	Biker started at shichijo and turned on side street for shortcut	Section A	Human-Canal				
71		11:02	Old lady stopped on shichijo bridge to look at river	Section A	Human-Nature				
72		11:20	A couple people walking to shichijo	Section B-A	Human-Canal				
73		11:33	Delivery truck to big had to park in front of park and carry	Section B	Human-Canal				
74		11:36	No foot traffic either side	Section A/B	Human-Canal				
75		11:37	Walked From side street used walking bridge as shortcut	Section A	Human-Canal				
76		12:01	Man walking along the canal taking pictures with his camera	upper section A	Human-Canal				
77		12:02	Two guys 20M walking along the canal	AB	Human-Canal				
78		12:05	40M walking along the canal	AB	Human-Canal				
79		12:07	2x2 taking pictures at the murmur coffee Kyoto	middle section B	Human-Nature				
80		12:14	Man biking and woman walking, both were looking at the plants	middle section B	Human-Canal				
81		12:16	Two women 20/30 walking along the river	middle section A	Human-Canal				
82		12:53	Woman walking dog along the river	middle section B	Human-Canal				
83		1:04	Went to the murmur coffee and the tables and chairs all face the takase river	middle section B	Human-Nature				
84		1:27	Person walking along the river	middle section B	Human-Nature				
85		1:55	Couple 20 walking down the river	middle section A	Human-Canal				
86		1:57	20F walking along the river	upper section A	Human-Canal				
87		1:58	People taking photos in traditional clothes by the hotel	upper section A	Human-Canal				
88		2:04	Woman taking pictures of the canal, with a tripod and a DSLR until 2:10, in the shichijo direction	middle section B	Human-Canal				
89		2:10	Older man walking along the river	AB	Human-Canal				
90		2:26	Guy walking his dog Labrador	upper section B	Human-Nature				
91		2:32	Person walking poodle	Section B	Human-Canal				
92		2:40	No foot traffic either side	Section A/B	Human-Canal				
93		2:55	Women using bridge as shortcut	Section A	Human-Canal				
94		3:00	Nobody either side	Section A/B	Human-Canal				
95		3:05	2 parents grandparent and baby in carriage walking. Came back at 4:40 with a toddler	Section A/B	Human-Canal				
96		3:09	Traffic picked up	Section A/B	Human-Canal				
97		3:31	3 people standing at bridge looking at phone then walked up towards c	Section B	Human-Canal				
98		3:39	No traffic either side	Section A/B	Human-Canal				
99		3:41	3 younger children walking together up stream and walked into a house	Section A-B	Human-Canal				
100		3:54	Kids walking home from school using river as a shortcut	Section A-B	Human-Canal				
101		4:37	Adult with 3 children all children very interested in river	Section A/B	Human-Nature				

	A	B	C	D	E	F	G	H	I	J
103		Wednesday	6:02	Lady walking her dog (shitzu)	middle section B	Human-Canal	6:04	walking along side canal	Section C	Human-Canal
104			6:03	Lady invited me for tea in her house	middle section B	Human-Canal	6:07	putting trash in the trash bin	Section C	Human-Canal
105			7:04	Person cycling very slowly looking at the other plants	upper section B	Human-Canal	6:11	biking along canal	Section C/D	Human-Canal
106			7:10	Person casually strolling along the river 40F	middle section A	Human-Nature	6:17	walking dog	Section C/D	Human-Canal
107			7:13	Many people with suits walking up and down	middle section B	Human-Canal	6:25	standing	Upper section C bridge	Human-Canal
108			7:14	Woman taking picture of the trees as she walked along the canal	lower section B	Human-Canal	6:31	walking along canal	Section C/D	Human-Canal
109			7:16	Man started sweeping leaves by the corner of the street - 7:23	middle section B	Human-Canal	6:36	bringing trash to collection place	Section C	Human-Canal
110			7:16	Man racking the leaves of the park - 7:22. Then he started a leaning the street along the canal and near the park	upper section B	Human-Nature	6:40	walking 2 white dogs along canal	Section C	Human-Canal
111			7:35	Woman walking her dog - mini doodle. She walked along the river	AB	Human-Nature	6:44	looking at trees	Upper section D	Human-Nature
112			7:42	Woman walking three dogs along the river	AB	Human-Canal	6:50	raking leaves	Section A	Human-Nature
113			7:43	Woman sweeping leaves in front of her house (near barber shop/politician picture)	upper section B	Human-Canal	6:51	walking along canal for exercise	Section C/D	Human-Canal
114			7:44	Woman sweeping leaves in front of the hotel	upper section A	Human-Canal	6:53	walking dog	Section C	Human-Canal
115			8:05	Two woman cycling, each with their kids also on the bike, along the river	AB	Human-Canal	6:58	cycling along canal looking at scenery	Section C/D	Human-Nature
116			8:20	Family walking with two little girls along the canal	AB	Human-Canal	7:00	walking along canal	Section C	Human-Canal
117			8:26	30F walking her dog, mini poodle	AB	Human-Canal	7:05	walking along canal (looking at houses more than canal)	Section C	Human-Canal
118			8:28	60M walking one sausage dogs and one other breed	AB	Human-Canal	7:32	running a long canal	Section C/D	Human-Canal
119			8:29	Older man cleaning leaves in the street in front of house	middle section A	Human-Canal	7:34	raking leaves	Lower section C	Human-Nature
120			8:30	Murmur coffee began to open	middle section B	Human-Canal	7:36	smoking	Section C	Human-Canal
121			8:33	Two older ladies walking around the river	AB	Human-Canal	7:37	walking dogs	Boat turn around site	Human-Canal
122			8:33	Two tourists walking around with luggage	middle section A	Human-Canal	7:46	lady at temple	Section C	Human-Canal
123			9:03	Couple sitting outside of coffee shop in front of river	Section B	Human-Canal	7:47	raking leaves	Lower section C	Human-Nature
124			9:06	Dad walking with toddler towards preschool	Section B-A	Human-Canal	8:07	walking along canal	Section C/D	Human-Canal
125			9:11	3 cars in front of school	Section A	Human-Canal	8:14	walking dogs	Section C/D	Human-Canal
126			9:12	Guy walking dog	Section A	Human-Canal	8:19	staring at canal	Lower section C bridge	Human-Nature
127			9:16	Dad riding bike with child in tow all the way from a-b	Section A-B	Human-Canal	8:23	staring at canal	Upper section C bridge	Human-Nature
128			9:21	Older couple going to coffee shop. Lady pushing man on wheelchair and leaving wheelchair on side of canal	Section A-B	Human-Canal	8:25	walking dog	Upper section C	Human-Canal
129			9:35	No foot traffic either side	Section A/B	Human-Canal	8:44	sitting in front of canal taking a photo of themselves with the river in the back	Lower section C bridge	Human-Nature
130			9:45	2 kids and 2 parent tourists at coffee shop and then walking down canal	Section B-A	Human-Canal	8:55	Taking a photo	Lower section C bridge	Human-Canal
131			9:48	28 preschoolers with 4 adults all walking upstream. Turned left at c bridge didn't follow river	Section A/B	Human-Canal	9:00	Construction restarted	Section D	Human-Canal
132			9:48	Another group walking downstream	Section A	Human-Canal	9:00	The construction team move the water pipe from the left to the right side of the canal to lead water.	Section D	Human-Canal
133			9:55	Guy raking leaves	Section A	Human-Nature	9:13	lady walk to her right to be by the canal side, looking at the plants and canal as she walks	Section C and D	Human-Nature
134			9:59	There's a truck that looks like it is fixing the power lines. Takes up the whole street no cars can pass	Section A	Human-Canal	9:15	A lot of seniors gathered at the gravel field left of the big tan building. They are playing a game that looks like mini golf	Section C	Human-Human
135			10:35	3 people 2 older people looking at river while walking along	Section A/B	Human-Canal	9:16	tourist looking person drinking coffee+ smoking while looking at the canal. Next to the bulletin board by the small temples.	Section C	Human-Canal
136			10:38	Truck finally left	Section A	Human-Canal	9:27	middle age man stopped at the C/D bridge to take picture of the canal	C/D bridge	Human-Nature
137			10:56	Old lady is cleaning something scraping it over the river	Section A	Human-Nature	9:31	middle age man stopped at the C/D bridge to take picture of the canal **	C/D bridge	Human-Nature
138			11:14	Mom riding bike with child pointing and looking at all the trees	Section A/B	Human-Nature	9:40	lady takes a picture of the canal in front of the gravel field	Section C	Human-Nature
139			11:16	Woman standing on walking bridge looking at the water	Section A	Human-Nature	9:40	Old man sweeping leaves on the other side of the street in front of the bathhouse. Been sweeping since 9am	Section C	Human-Nature
140			11:23	Kids now coming back	Section B-A	Human-Canal	9:41	Man got picture of himself taken with canal as the background	Section C	Human-Canal
141			11:30	Nobody on either side	Section A/B	Human-Canal	9:44	lady takes a picture of the canal in front of the gravel field	Section C	Human-Nature
142			11:36	Woman stopped in bridge to take a picture of both sides	Section A	Human-Nature	9:56	three tourists hanging by the bridge in front of the bathhouse looking at the canal	Section C	Human-Nature
143			11:48	Older guy taking picture of river	Section A	Human-Nature	10:43	two tourist stop by C/D bridge to take pictures of the canal	C/D bridge	Human-Canal
144			11:53	Lady sweeping in front of business	Section A/B	Human-Nature	11:58	Elder woman looking at the big tree in front of Gravel field and plants along the canal as she walk	Section C	Human-Nature
145			11:58	A guy is lifting up some sort of panel on the ground and writing a note and putting it in their mailbox	Section A	Human-Canal	12:18	looking at plants/garden	Section C	Human-Canal
146			11:59	Two people standing in riverbank and talking. Maybe about the river	Section A	Human-Nature	12:21	Taking photos of trees	Section C	Human-Canal
147			12:00	Mom playing with her daughter by the park	upper section B	Human-Canal	12:24	drinking a beer by trees	Section D	Human-Nature
148			12:07	Many people sitting by the murmur caffe. At 12:15 there were still a lot of people, most of which were sat down with seats pointing to the takase river	middle section B	Human-Canal	12:29	2 girls walking looking at trees	Section C	Human-Canal
149			12:09	Man walking with camera by the river	AB	Human-Canal	12:37	looking at canal	Lower section C	Human-Nature
150			12:10	School students walking by the river with lunches	lower section A	Human-Nature	12:39	taking photos	Lower section C bridge	Human-Nature
151			12:10	3x20F taking pictures of the river and the birds by the river at the schichijo street end facing towards the gojo direction	lower section A	Human-Canal	12:44	looking at boat turn around plaque	Boat turn around site	Human-Canal
152			12:14	Couple taking pictures by the canal	middle section A	Human-Canal	13:14	tourists walking by and looking at canal	Section C/D	Human-Canal
153			12:19	Man stopped by the bridge and took pictures of the canal and pictures of the bathouse (mostly pictures of the bathhouse)	upper section B	Human-Canal	13:21	looking at boat turn around plaque	Boat turn around site	Human-Canal

153	W	12:19	Man stopped by the bridge and took pictures of the canal and pictures of the bathouse (mostly pictures of the bathhouse)	upper section B	Human-Canal	13:21	looking at boat turn around plaque	Boat turn around site	Human-Canal
154		12:21	Students at the park having lunch	upper section B	Human-Nature	13:51	group waiting by the river in front of the bath house	Lower section C	Human-Canal
155		12:22	Two women walking by the river and stopping to observe the trees	lower section B	Human-Nature	13:58	raking leaves	Upper section C bridge	Human-Nature
156		12:29	Two ladies walking by the canal looking at the flowers and pointing at the plants, occasionally stopping to look at them. Both older 60-70. Seen near the beer lab	upper section A	Human-Canal	14:16	walking down bridge	Lower section C bridge	Human-Canal
157		12:37	Two girls walking along the river looking at trees	AB	Human-Canal	14:18	looking at canal	Upper section C	Human-Canal
158		12:38	20F taking pictures of the canal with point at shoot camera on the Nintendo bridge. Then she recorded a vertical video on her phone of the view. 12:39 moving further towards schichijo and taking more pictures.	middle section B	Human-Canal	15:02	Lady looking at the bulletin board by two small temples	Section C	Human-Canal
159		12:38	20F walking her dog chihuahua near caffe	middle section B	Human-Canal	15:25	Lady smoking as she looks at plants and flowers by the canal	Section C	Human-Canal
160		12:40	Two ladies stopped by the river to look at the flowers, then plucked one from the bush. In the final schichijo section of the river. Girls from 12:37	lower section A	Human-Canal	16:39	Middle aged man walk as he looks at the canal	Section C and D	Human-Canal
161		12:47	60M cycling near the hotels, stopped his bike and stared at the trees while he smoked	upper section A	Human-Canal	16:48	Old lady sweep leaves in front of her house, next to the mean old man house	Section D	Human-Nature
162		12:50	Tadsuyo walking her dog	middle section B	Human-Canal	17:00	Guy gathering leaves on the road to the left(going toward Gojo) of C/D bridge	Section D	Human-Nature
163		12:59	60F looking at the plants near Nintendo bridge. She grabbed some of the leaves. Lastly she stopped by the the bridge and looked a the river for a little bit.	middle section B	Human-Canal				
164		1:14	Two young guys biking down the river	AB	Human-Nature				
165		1:17	Couple stopped by the small Japanese maple in near the schichijo end to look at the plants.	middle section A	Human-Canal				
166		1:46	Two elderly ladies walking along the canal and stopping near the bathouse to look at it and the river	upper section B	Human-Canal				
167		1:46	Women walking a white Shiba Inu around the park	upper section B	Human-Canal				
168		1:50	60M standing by the canal looking at the plants near the Nintendo bridge	middle section B	Human-Nature				
169		1:50	Electricity guy seeing wattage consumption	upper section A	Human-Nature				
170		1:51	School student walking by Nintendo bridge	middle section B	Human-Canal				
171		1:53	Two tourists walking down the river with their luggage	AB	Human-Canal				
172		1:58	Woman from beer lab cleaning the leaves from the front of the restaurant	upper section A	Human-Canal				
173		2:16	Two women in traditional clothes walking near the hotel	upper section A	Human-Canal				
174		2:17	Two man 20 and 40 staring at the river by the beer lab	upper section A	Human-Canal				
175		2:34	Two people smoking outside of the beer garden sitting on side of canal. It appears that the bar provides little stools to sit there.	Section A	Human-Canal				
176		2:34	Another person sitting further down smoking	Section A	Human-Canal				
177		2:35	Woman sweeping in front of house	Section A/B	Human-Nature				
178		2:52	Two older ladies admiring the plants as they walk up the street	Section A-B	Human-Nature				
179		3:13	Person walking dog	Section A/B	Human-Nature				
180		3:14	A couple using the canal bar seating	Section A	Human-Canal				
181		3:15	A couple stopped and looking at river	Section A/B	Human-Nature				
182		3:28	A guy in the river picking up leaf clumps and trash and putting in plastic bag with giant long looking things. Pulled weed out of side wall.	Section A	Human-Nature				
183			Filled up a giant bag and pulled out smaller bag and started filling. Started grabbing leaves from the top too. Filled up small bag and grabbed another.						
184		3:43	Guy who is talking on the phone with headphones walking up and down canal	Section A/B	Human-Canal				
185		4:04	Women using temple	Section A/B	Human-Canal				
186		4:13	Guy all the way at shichijo bridge	Section A/B	Humam-Nature				
187		4:28	Woman walking dog	Section A/B	Human-Canal				
188		4:35	Man grabbing dirt from shallow part of river and throwing it into a deeper part	Section A	Human-Nature				
189		4:50	Guy finished with 7 bags as leaves that are left on the side of the canal I assume to be picked up with the trash. Did all from shichijo to walking only bridge	Section A	Human-Nature				
190		4:53	Woman walking dog.	Section A/B	Human-Canal				
191		4:55	Woman sweeping walking bridge	Section A	Human-Nature				
192		5:00	Woman taking out garbage to put in plastic film like baskets and put tarp thing over	Section A	Human-Canal				

193	Thursday	6:09	Man running along the canal	AB	Human-Canal	6:40	walking along canal	Lower section C bridge	Human-Canal
194		6:12	Man walking his dog corgi along the canal. He started by walking but then proceeded to sprint	AB	Human-Canal	6:42	walking 3 dogs	Section C	Human-Canal
195		6:17	Crows singing like crazy	lower section A	Human-Canal	6:44	looking at bulletin board	Section C	Human-Canal
196		6:19	Person arrived home with groceries	lower section A	Human-Nature	6:45	walking corgi	Section C	Human-Canal
197		6:20	Person biking along the canals	AB	Human-Nature	6:50	running along canal	Upper Section C	Human-Canal
198		6:21	I found remains of a lecture view mirror, someone probably hit the pole in front of it near the middle bridge	middle section A	Human-Nature	6:56	biking along canal	Section C/D	Human-Canal
199		6:47	Two people walking along the canal, one had a small suitcase	AB	Human-Canal	7:01	using bathroom	Lower section D	Human-Canal
200		6:48	Woman 20/30 running along the canal	AB	Human-Canal	7:07	elderly lady walking along canal	Section C	Human-Canal
201		6:59	Person biking along the river	AB	Human-Canal	7:09	elderly lady walking along canal	KI restaurant	Human-Canal
202		7:02	Person walking along the canal with a big DSLR taking pictures	middle section B	Human-Nature	7:16	a couple looking at birds along canal	Section C/D	Human-Nature
203		7:03	Lady took out her trash and placed it near the park	upper section B	Human-Nature	7:26	walking along canal	Section D	Human-Canal
204		7:04	Man standing outside of his house smoking looking at the trees	lower section B	Human-Canal	7:29	person smoking	Boat turn around site	Human-Canal
205		7:07	80F walking Shiba Inu by the river	AB	Human-Canal	7:38	walking dog	Section C	Human-Canal
206		7:21	Leaf cleanup man arrives	upper section B	Human-Nature	7:40	walking along canal looking at trees	Section C	Human-Nature
207		7:23	Leaf cleanup began around the park only by the 50M. 7:24 60F who helps arrived. They removed brims from a broom closet to begin cleaning. 7:25 third 70F arrived to clean the park. Fourth person joined them and they finished the cleanup somewhere around 8:02	upper section B	Human-Nature	7:44	using bulletin board	Upper Section C	Human-Canal
208		7:23	Sun is fully out began to get warm	AB	Human-Nature	8:16	person interacting with temple	Section C	Human-Canal
209		7:25	Foot traffic increased	middle section B	Human-Canal	8:19	sweeping leaves	Section D	Human-Nature
210		7:35	Two people sweeping leaves near the large car park	upper section B	Human-Canal	8:33	walking dogs along canal	Section C	Human-Canal
211		7:35	Person walking their small sausage dog along the river. People don't respect the no pee signs.	middle section B	Human-Canal	8:37	using temple	Section C	Human-Canal
212		7:40	Person finished raking leaves near the schichjo street	lower section A	Human-Canal	8:38	sweeping leaves	Lower section C	Human-Nature
213		7:46	80F walking along the canal and stopped to look at a large tree near schichijo	lower section A	Human-Canal	8:40	walking dog along canal	Section C	Human-Canal
214		7:48	Woman running along the canal with her dog	AB	Human-Canal	8:41	looking at foliage along canal	Lower section D	Human-Nature
215		7:51	Guy walking across with dog	middle section B	Human-Nature	8:45	cleaning up leaves and foliage	Section C	Human-Nature
216		8:22	Woman walking her dog along the river	AB	Human-Canal	9:30	Man breaking off dry branches and cutting down branches from tree to left of gravel field	Section C	Human-Nature
217		8:23	20M walking mini poodle	AB	Human-Nature	10:36	Woman sweeping leaves off of her property section D	Section D	Human-Nature
218		8:26	20M running along river	AB	Human-Canal	10:42	Bicyclist bike by and stopped at C/D bridge to take a look at the canal	C/D bridge	Human-Nature
219		8:44	Woman walking poodle	AB	Human-Canal	10:55	2 people walking from C to D while looking at the canal	Section C and D	Human-Canal
220		8:45	Two man with luggage on the street	upper section A	Human-Nature	11:07	2 girl stopped by C/D bridge to look at the canal	C/D bridge	Human-Nature
221		8:45	Man racking leaves near corner of Nintendo street	middle section B	Human-Canal	11:36	A tourist took a picture of the canal on C/D bridge	C/D bridge	Human-Nature
222		8:46	Group of women walking along river and looking at the trees	AB	Human-Canal	11:55	couple walk along the canal as the look at the vegetations and water	Section C and D	Human-Nature
223		8:47	80F raking leaves to the right of barber shop	upper section B	Human-Nature	12:03	stopping along canal and taking a photo	Upper section C	Human-Nature
224		8:55	Woman cleaning leaves in front of hotel	upper section A	Human-Canal	12:32	sweeping leaves in front of house	Upper section C	Human-Nature
225		9:01	Woman walking dog looks like a corgi	Section A/B	Human-Canal	12:34	walking along canal recording trees and taking photos	Section C	Human-Canal
226		9:05	A lot of Trash back in the area the guy cleaned yesterday	Section A	Human-Nature	12:35	sitting in front of KI	KI restaurant	Human-Canal
227		9:08	Woman sweeping in front of hotel	Section A/B	Human-Nature	12:47	sitting alone canal	Section D	Human-Canal
228		9:09	Coffee place not open even though it opens everyday at 9 bc holiday	Section B	Human-Canal	12:56	taking photos of canal	Lower section C bridge	Human-Canal
229		9:11	Elderly lady came out of house and walked straight across to plant and was looking at it	Section B	Human-Nature	13:20	posting papers on bulletin board	Lower section D	Human-Canal
230		9:11	Woman sweeping in front of house	Section A/B	Human-Canal	14:02	walking dog along canal	Section C/D	Human-Canal
231		9:12	Older guy walking with small dog	Sectoin A/B	Human-Canal	14:09	looking at boat turn around plaque	Boat turn around site	Human-Canal
232		9:15	Trash in canal most likely from wind bc people put out their trash for pickup	Section A/B	Human-Nature	14:40	Man taking picture of tree/Canal in front of Bathhouse	Section C	Human-Nature
233		9:18	Elderly woman sweeping in front of house.	Section A/B	Human-Nature	14:58	Old man looking at Canal from C/D bridge	Section C and D	Human-Nature
234		9:18	Not as many cars as usual	Section A/B	Human-Canal	15:19		C/D bridge	Human-Nature
235		9:25	No traffic either side	Section A/B	Human-Canal	3:24	Old man feeding 2 cats by big persimmon tree	Section C	Human-Nature
236		9:32	The water isn't flowing as fast as yesterday and a lower water level. Rain a few days ago might've all emptied	Section A/B	Human-Nature	15:49	Lady looking at the Big rock next to the wooden sign in front of the gravel field	Section C	Human-Canal
237		9:48	Woman walking dog	Section A/B	Human-Canal	16:00	Two lady looking at brown wooden sign by canal across from fig plant with fruit	Section C	Human-Canal
238		9:49	Family of 3 came from side street to walk up canal instead of continuing on side street	Section A-B	Human-Canal	16:20	Man taking picture of Japanese maple tree by C/D bridge	C/D bridge	Human-Nature
239		9:50	Couple from hotel, girl posed in front of trees for a picture and continuing to admire	Section A/B	Human-Nature	16:23	Dog walker loops around the canal 2 time	Section C and D	Human-Canal
240		9:56	Guy delivering packages	Section A/B	Human-Canal			Section D	Human-Nature
241		10:01	Older couple looking at river from b bridge	Section B	Human-Nature				
242		10:07	Woman praying at temple	Section A/B	Human-Canal				
243		10:24	Guy walking dog	Section A/B	Human-Canal				
244		10:28	Older lady looking at plants	Section A/B	Human-Nature				
245		10:36	Man walking with shitzu. Sat down across from bar in the sun	Section A	Human-Canal				
246		10:49	Garbage truck	Section A/B	Human-Canal				
247		10:50	Woman sweeping in front of house	Section A	Human-Nature				
248		10:51	Garbage truck grabs leaves that guy removed yesterday	Section A	Human-Canal				
249		10:53	As soon as truck goes by people come out and grab their blue tarps	Section A/B	Human-Canal				

238	Thursday	8:49	Family of 3 came from side street to walk up canal instead of continuing on side street	Section A-B	Human-Canal	16:20	Man taking picture of Japanese maple tree by C/D bridge	C/D bridge	Human-Nature
239		8:50	Couple from hotel, girl posed in front of trees for a picture and continuing to admire	Section A/B	Human-Nature	16:23	Dog walker loops around the canal 2 time	Section C and D	Human-Canal
240		8:56	Guy delivering packages	Section A/B	Human-Canal			Section D	Human-Nature
241		10:01	Older couple looking at river from b bridge	Section B	Human-Nature				
242		10:07	Woman praying at temple	Section A/B	Human-Canal				
243		10:24	Guy walking dog	Section A/B	Human-Canal				
244		10:28	Older lady looking at plants	Section A/B	Human-Nature				
245		10:36	Man waking with shitzu. Sat down across from bar in the sun	Section A	Human-Canal				
246		10:49	Garbage truck	Section A/B	Human-Canal				
247		10:50	Woman sweeping in front of house	Section A	Human-Nature				
248		10:51	Garbage truck grabs leaves that guy removed yesterday	Section A	Human-Canal				
249		10:53	As soon as truck goes by people come out and grab their blue tarps	Section A/B	Human-Canal				
250		10:58	Guy using a pot on a long stick to try and grab trash from river	Section A	Human-Nature				
251		11:12	Guy on b bridge using a camera to take pictures of trees and water	Section B	Human-Nature				
252		11:19	Person sweeping in front of bike rental place	Section A	Human-Nature				
253		11:22	Lady with camera taking pictures of trees. Went on bridge to take pictures	Section A	Human-Nature				
254		11:23	Beer garden opened	Section A	Human-Canal				
255		11:25	Guy in a wheelchair sitting in front of house I think with a drink and just looking	Section A	Human-Canal				
256		11:30	Old guy stopped on bridge to look at water	Section A	Human-Nature				
257		11:31	Two tourists sitting in front of beer garden talking	Section A	Human-Canal				
258		11:41	They didn't pick up all the leaves and left 4 bags with a tag on it	Section A	Human-Canal				
259		11:48	Dad and kid taking pictures on shichijo bridge of river	Section A	Human-Nature				
260		11:59	A lot of people used the bike rental place	Section A	Human-Canal				
261		12:33	Lady came out of beer lab to clean some leaves and then went back in	upper section A	Human-Nature				
262		12:40	60F walking by the river	AB	Human-Canal				
263		12:42	60F cleaning her garage after the middle bridge	lower section A	Human-Nature				
264		12:42	40F was going around the river and briefly stopped to see some plants	middle section A	Human-Canal				
265		12:58	Couple walking along the river looking at plants	middle section A	Human-Canal				
266		1:27	People walking the canal with luggage until they got to their hotel	section A	Human-Nature				
267		1:33	Couple walking by river looking up at the trees	AB	Human-Canal				
268		1:34	Two people walking along the canal with luggage	AB	Human-Canal				
269		1:45	4 people sitting by the river in front of the beer garden drinking. They are all sitting with their legs over the river walls	upper section A	Human-Nature				
270		1:48	A lot of people in the beer lab (around 8-10)	upper section A	Human-Canal				
271		2:15	People with luggage coming up from CD down to AB	AB	Human-Canal				
272		2:53	Grandma with granddaughter sweeping the leaves	Section A	Human-Nature				
273		2:53	Guy walking up and down canal for exercise	Section A/B	Human-Canal				
274		2:55	Mom and kid learning to ride bike with training wheels along canal	Section A/B	Human-Canal				
275		2:55	Older guys standing in bridge talking about building	Section A	Human-Canal				
276		2:56	Couple standing on wooden thing in front of beer and looking at river	Section A	Human-Nature				
277		3:00	Couple walking up from a-b with suitcases looking at all the trees	Section A-B	Human-Nature				
278		3:05	Couple taking pictures of each other standing along canal and videos of river	Section A/B	Human-Nature				
279		3:19	Little girl that was sweeping before is now biking up and down by herself. She also appears to be picking up the loose trash from around	Section A/B	Human-Canal				
280		3:22	Guy sitting on the wood thing in front of beer place	Section A	Human-Canal				
281		3:23	Guy walking some sort of poodle mix	Section A/B	Human-Canal				
282		3:25	Woman walked from shichijo up and then crossed at walk bridge to walk back while looking at river whole time	Section A	Human-Nature				
283		3:29	At b bridge it appears as if an older gentlemen just peed in a bush in plain sight	Section B	Human-Nature				
284		3:32	A couple walking a dog and a singular person. Singular person dog went after dog	Section A	Human-Canal				
285		3:35	Another singular person walking dog	Section A/B	Human-Canal				
286		3:40	Older lady standing by riverside admiring the river	Section A/B	Human-Nature				
287		3:47	Tourists speaking English looking at trees	Section A	Human-Nature				
288		3:52	Middle aged couple taking pictures on walking bridge on both sides	Section A/B	Human-Nature				
289		3:54	Another person walking dog decided to sit in front of closed coffee shop	Section B	Human-Canal				
290		3:55	Girl on bike has stopped to pet every dog	Section A/B	Human-Canal				
291		4:09	Biggest dog I've seen looks like a black lab	Section B	Human-Canal				
292		4:15	Guy just wiped dogs butt after it pooped	Section A	Human-Canal				
293		4:30	People walking dog	Section A/B	Human-Canal				
294		4:32	Older woman walking dog	Section A/B	Human-Canal				

296	Friday	6:25	Person running by the canal from CD to schichijo	AB	Human-Canal	6:29	walking three dogs	Section C/D	Human-Canal
297		6:27	70F walking their Shiba Inu	AB	Human-Canal	6:30	couple walking dog along canal	Section C/D	Human-Canal
298		6:33	Woman walking 3 dogs came from the road parallel to the river by the Nintendo street	middle section B	Human-Nature	6:38	couple walking dog along canal	Section C	Human-Canal
299		6:37	Woman walking shitzu by the river	AB	Human-Nature	6:37	walking dog along canal	Section D	Human-Canal
300		6:48	Lady came out to throw her trash away	lower section A	Human-Nature	7:00	using temple	Section C	Human-Canal
301		6:50	Person running with their dog along the river	AB	Human-Canal	7:02	walking along canal	Section C/D	Human-Canal
302		6:50	Woman walking two dogs along the river	AB	Human-Canal	7:13	2 guys sitting in front of KI	KI restaurant	Human-Canal
303		6:55	Man walking along the canal with two mini white poodles	AB	Human-Canal	7:26	sitting on bridge looking at canal	Upper section C	Human-Canal
304		6:58	50M power walking while walking with his dog	AB	Human-Nature	7:33	walking dog along canal	Section C	Human-Canal
305		6:57	Man trimming the leaves near where section B and C meet. Then he started watering some plants with the garden hose.	upper section B	Human-Nature	7:36	sweeping in front of park	Section B park	Human-Nature
306		7:41	Person walking dog	AB	Human-Canal	7:39	sweeping leaves in front of house	Lower section B	Human-Nature
307		7:42	People raking leaves at the park, 8:03 people still taking leaves, mostly finished at 8:10. Finished at 8:19	upper section B	Human-Canal	8:03	on bridge looking at canal	Lower section C bridge	Human-Canal
308		7:42	Lady raking leaves in grant of the barber shop. 7:48 lady finished raking the leaves	upper section B	Human-Nature	8:25	family walking along canal	Section C	Human-Canal
309		7:43	Lady walking with her dog	AB	Human-Nature	8:27	stopped and looked at old rope bridge	Section C	Human-Canal
310		7:47	Man starting to open murmur caffe	lower section B	Human-Nature	8:30	taking photos along the canal	Section C	Human-Canal
311		7:20	Lady took me in for breakfast	lower section B	Human-Canal	8:36	walking dog along canal	Section D	Human-Canal
312		7:52	Guy walking his dog near schichijo	lower section A	Human-Canal	9:22	A woman took picture of the persimmon tree next to the Pomelo tree	Section D	Human-Nature
313		7:53	Woman racking leaves in front of her house near the AB connection	lower section B	Human-Canal	9:26	Woman sweeping leaves in front of her house, by the big fig tree	Section C	Human-Nature
314		7:56	Traffic picked up	middle section B	Human-Canal	9:34	Guy walking his dog up and down the canal C/D	Section C and D	Human-Canal
315		8:11	People going to school with bikes going across the Nintendo bridge	middle section B	Human-Canal	9:54	Woman eating pork bun and drinking coffee as she looks at the canal and plants around. In front of gravel yard, by wooden sign	Section C	Human-Canal
316		8:14	Lady cleaning leaves in front of the hotel	lower section B	Human-Canal	10:02	Woman walking along the canal drinking coffee as she looks at the scenery	Section C and D	Human-Nature
317		8:15	Person racking leaves in front of the blue vending machine near schichijo	middle section A	Human-Canal	10:14	Couple bike down from Gojo to section C	Section C and D	Human-Canal
318		8:18	Man started raking leaves in front of apartment building near murmur caffe	middle section B	Human-Canal	10:32	Woman walk by C/D bridge with her daughter as she pointing at the canal and plants	Section C and D	Human-Nature
319		8:21	Little kid 2/3 and his mom collecting plants, flowers and leaves along the canal	middle section B	Human-Nature	10:42	Lady taking pictures of the canal on C/D bridge (toward bushier side)	Section D	Human-Nature
320		8:25	Man started cleaning the leaves on the corner near Nintendo bridge, cleaned the bridge and the other side of the bridge as well at 8:33. Finished and started watering plants at 8:44	upper section B	Human-Nature	10:47	Old man looking at the construction by section D	Section D	Human-Canal
321		8:39	Women walking corgi along the river	AB	Human-Nature	10:58	KI workers smoke in front of the restaurant by the canal	Section D	Human-Canal
322		9:01	Woman biking with 2 little kids in it	Section A/B	Human-Canal	11:12	Tourist look at the persimmon tree close to the small temples	Section C	Human-Nature
323		9:03	Older guy walking dog	Section A/B	Human-Canal	11:20	Man taking pictures of the canal in front of the bathhouse	Section C	Human-Nature
324		9:03	Guy sweeping up leaves in front of his house	Section B	Human-Canal	11:21	Man stop to look at the brown wooden sign posted across from the empty lot next to bath house	Section C	Human-Canal
325		9:04	Older couple looking down at river as they're walking by	Section A/B	Human-Nature	12:08	taking a photo of the bulletin board	Lower section D	Human-Canal
326		9:05	Van dropping off kids at preschool	Section A	Human-Nature	12:27	taking photos of family	Upper section C	Human-Canal
327		9:07	Car delivering things for house under construction	Section A	Human-Canal	13:12	sitting in front of KI looking at canal	KI restaurant	Human-Canal
328		9:08	Coffee shop is open. People sitting outside with their dog	Section B	Human-Canal	13:15	sitting at bridge	Upper section C	Human-Canal
329		9:09	Older woman sweeping leaves like she usually does	Section A	Human-Nature	13:20	looking at trees along canal	Section D	Human-Canal
330		9:12	A lot of cars and bikes in front of preschool. Made it hard for cars to pass	Section A	Human-Nature	13:45	guy sitting on bridge	Lower section C	Human-Canal
331		9:13	People stopping in shichijo bridge to take pictures looked like tourists	Section A	Human-Nature	13:49	walking dogs along canal	Section C	Human-Canal
332		9:15	More people with suits walking than yesterday	Section A/B	Human-Canal	13:57	lot of people showed up to the onsen	Lower section C	Human-Canal
333		9:21	Garbage truck in same side as preschool	Section A/B	Human-Canal	14:13	person walking 2 dogs	Section C	Human-Canal
334		9:30	There's a woman on the walking bridge looking at the river who appears to be stretching and just well enjoying the view	Section A	Human-Canal	14:15	sitting in front of KI	KI restaurant	Human-Canal
335		9:40	Couple walking dog	Section A/B	Human-Canal	14:25	smoking by canal	Upper section C side road	Human-Canal
336		9:44	Girls taking pictures of each other on the river	Section A/B	Human-Canal	14:27	taking a photo of the canal	Section C	Human-Canal
337		9:45	Person walking dog	Section A/B	Human-Canal	14:35	Man sweeping leaves on the street across the temples	Section C	Human-Nature
338		9:50	Tourists after finishing at coffee shop went to look at the river	Section B	Human-Nature	14:57	Girl paused to take picture of canal by persimmon tree while walking dog	Section C	Human-Nature
339		9:51	The coffee shop is super busy that there is a huge line outside	Section B	Human-Canal	15:27	3 Old man stopped by C/D bridge to look at the canal and vegetations on the bushier side	C/D bridge	Human-Nature
340		9:53	There are 2 guys with hard hats writing things down on clipboards. Appears to be checking the angle of a mirror. And looking at trees	Section A/B	Human-Canal	15:39	2 tourist walk by section C and seem to enjoy the view as they walk slow and look at the canal/plants	Section C and D	Human-Nature
341		10:03	People stopped to sit on river in front of beer garden	Section A	Human-Canal	16:27	2 female tourist walking from C to D and taking pictures of the canal as they walk	Section C and D	Human-Nature
342		10:33	Coffee place still very busy	Section B	Human-Canal	16:35	Lady taking picture of the canal on C/D bridge toward bushier side	C/D bridge	Human-Nature
343		10:34	Girl with a tripod thing for her phone taking pictures of herself	Section B	Human-Nature				
344		10:35	9 kids and two adults walking from a-b. They went to the park	Section A-B	Human-Nature				
345		10:40	2 people taking picture of canal from shichijo bridge	Section A	Human-Nature				
346		10:45	Guy on walking bridge taking pictures north	Section A	Human-Nature				
347		10:56	People taking picture of coffee shop with them in it	Section B	Human-Canal				
348		11:22	The kids are heading back now	Section B-A	Human-Canal				
349		11:28	Guy on bike used canal instead of side street	Section A/B	Human-Canal				

342	Friday	10:33	Coffee place still very busy	Section B	Human-Canal	16:35	Lady taking picture of the canal on C/D bridge toward bushler side	C/D bridge	Human-Nature
343		10:34	Girl with a tripod thing for her phone taking pictures of herself	Section B	Human-Nature				
344		10:35	9 kids and two adults walking from a-b. They went to the park	Section A-B	Human-Nature				
345		10:40	2 people taking picture of canal from shichijo bridge	Section A	Human-Nature				
346		10:45	Guy on walking bridge taking pictures north	Section A	Human-Nature				
347		10:56	People taking picture of coffee shop with them in it	Section B	Human-Canal				
348		11:22	The kids are heading back now	Section B-A	Human-Canal				
349		11:28	Guy on bike used canal instead of side street	Section A/B	Human-Canal				
350		11:36	Guy walking wiener dog	Section A/B	Human-Canal				
351		11:42	Lady watering plants in front of house not on river	Section A	Human-Nature				
352		11:47	Tourists at shichijo bridge taking pictures	Section A	Human-Nature				
353		11:49	People smoking and talking on the wood thingy	Section A	Human-Canal				
354		12:03	A lot of people at murmur coffee around (14) many sitting at the edge facing the river. Seemed like a lot of foreigners as well	lower section B	Human-Canal				
355		12:05	Woman cleaning leaves from the street and island in front of her house close to the second bridge	upper section A	Human-Nature				
356		12:08	Woman taking pictures of the canal from schichijo street	lower section A	Human-Canal				
357		12:08	40F taking pictures of the red buds from schichijo street by the last bridge	upper section B	Human-Canal				
358		12:09	Another woman cleaning leaves near the second bridge	middle section A	Human-Canal				
359		12:24	Man taking pictures of the trees opposite to the beer lab. Nevertheless he looks to be from and electricity company and he was looking at the wires	middle section A	Human-Nature				
360		12:26	People in the beer garden taking promotional pictures of their drinks with the canal in the background	upper section A	Human-Nature				
361		12:27	Person taking a call at the second bridge	middle section A	Human-Canal				
362		12:57	Family of three walking by the canal looking at the trees	AB	Human-Canal				
363		1:08	Man biking along the river	AB	Human-Canal				
364		1:10	Two girls 20F walking along the river	AB	Human-Nature				
365		1:18	Girl went to the Nintendo bridge and took pictures of the canal of both sides of the bridge	middle section B	Human-Canal				
366		1:21	Man biking slowly and looking at the plants. Then he leaned his bike in a location. Then he pulled out a bag a collected a couple of leafs from the tree. Seemed like he was removing yellow ones	upper section B	Human-Canal				
367		1:22	Group of 5 teens stopped by the bridge, of the them posed by the rail and the others took pictures of him. Nintendo bridge facing schichijo direction. 4M and 1F	middle section B	Human-Human				
368		1:32	Tourists arriving with luggage. They stopped by a tree and started looking at it. Heavenly bamboo maybe. Near the second hotel	upper section A	Human-Canal				
369		1:35	Two ladies taking a baby on a stroller along the river	AB	Human-Nature				
370		1:40	Three older gentlemen came with green shirts and began placing rocks in the bushes of the park	upper section B	Human-Canal				
371		1:43	2x20F walked by the last bridge and took a picture of the cherry tree on the side closest to the road	lower section A	Human-Canal				
372		1:47	60M adding a document to the bulletin board	upper section B	Human-Canal				
373		1:48	Two girls around 8 taking a walk along the river - they then went to the park to play	upper section B	Human-Nature				
374		2:16	12 adults at the park working in plants vases. They are all wearing gloves and are getting instructed on how to sift soil into plant vases	upper section B	Human-Nature				
375		2:19	Two people starting at the trees near the second bridge. One of them leo pointing at the plants where a huge tree was cut. The older man seemed to be complaining or telling the younger tourist of how it was cut	middle section A	Human-Canal				
376		2:35	Guys sitting on wooden thing reading	Section A	Human-Canal				
377		2:41	A lot of people still sitting outside at the coffee place	Section B	Human-Canal				
378		2:47	Guy talking on phone on walking bridge	Section A	Human-Nature				
379		2:52	Older lady doing putting the plants in new water. Emptying the water by throwing in canal and water some plants	Section A	Human-Canal				
380		2:53	Woman sweeping in front of school	Section A	Human-Nature				
381		2:55	Biker admiring the trees. Came up from one side and then crossed back over and went back to the shichijo maybe just wanted to look at trees	Section A	Human-Nature				
382		3:22	Guy walking two dogs	Section A/B	Human-Canal				
383		3:24	First van in front of school	Section A	Human-Canal				
384		3:30	Person walking dog	Section A/B	Human-Canal				
385		3:40	Person walking dog	Section A/B	Human-Canal				
386		3:43	One of the hotel workers went into the river and was poking around all the leaf clumps to find anything to throwaway but left the leaves in. Also used tongs	Section A/B	Human-Nature				
387		3:47	Person walking dog	Section A/B	Human-Canal				
388		3:49	Person walking dog	Section A/B	Human-Canal				
389		3:54	Hotel worker trimming little bush in front of north one	Section B	Human-Nature				
390		3:58	Older guy sweeping in front of house	Section A	Human-Nature				

399		6:32	Woman walking Shiba Inu	AB		6:48	taking photo of bath house	Lower section C	Human-Canal
400		8:38	Tadsuyo walking her dog	middle section B	Human-Canal	6:48	taking photo of section B from bath house	Lower section C	Human-Canal
401		6:39	Man watering the potted plants in front of his house	upper section B	Human-Nature	7:03	walking dogs along canal	Section D	Human-Canal
402		6:49	Woman walking her dog	AB	Human-Canal	7:08	2 guys smoking by side road	Upper section C side roa	Human-Canal
403		6:49	Man walking around the river with his luggage	AB	Human-Canal	7:16	racking leaves	Upper section B	Human-Nature
404		6:52	Guy walking around with two dogs	AB	Human-Canal	7:19	walking dog by bath house	Lower section C	Human-Canal
405		7:04	Man sweeping the leaves in front of ryokan yuhara	upper section B	Human-Nature	7:21	running e long canal	Section C/D	Human-Canal
406		7:08	Couple walking along the river	AB	Human-Nature	7:25	biking along canal	Section C/D	Human-Canal
407		7:12	Man running along the canal	AB	Human-Canal	7:30	taking a photo of the bath house from the bridge	Lower section C bridge	Human-Canal
408		7:18	Older lady walking along the canal	AB	Human-Canal	7:37	asking photo of object with canal as the background	Lower section C bridge	Human-Canal
409		7:26	Man walking to the park to clean the leaves	upper section B	Human-Canal	7:38	looking at boat turn around plaque	Boat turn around site	Human-Canal
410		7:28	Two men and one woman were cleaning the park. 7:41 they began cleaning the street	upper section B	Human-Nature	7:40	two people walking 2 dogs	Section C	Human-Canal
411		7:29	2x20M walking along the river	AB	Human-Canal	7:42	walking along canal looking at trees	Section C	Human-Canal
412		7:31	Man walking his schnauzer dog	AB	Human-Canal	7:45	running a long canal with dog	Section C/D	Human-Canal
413		7:37	Woman walking dog	AB	Human-Nature	7:46	two elderly ladies walking along canal	Section C	Human-Canal
414		7:42	Two people jogging along the river	AB	Human-Canal	7:51	walking dog	Section D	Human-Canal
415		8:02	Man from the park begain to clean the corner by Nintendo bridge	upper section B	Human-Canal	7:58	elderly guy trimming plants and picking fruit	Section B	Human-Nature
416		8:25	One guy and one older lady walking by the river (not together)	AB	Human-Canal	8:21	taking photo of the canal	Lower section C bridge	Human-Canal
417		8:26	Man running along the river	AB	Human-Nature	8:31	waiting on bridge by bath house	Lower section C bridge	Human-Canal
418		8:28	Man taking pictures of the houses along the river	upper section B	Human-Nature	8:52	walking dog, dog sniffed and peed in a bush	Section C	Human-Nature
419		8:28	Woman biking by the river	AB	Human-Canal	8:53	people taking photos of trees	Upper section C	Human-Canal
420		8:29	Woman biking by the river	AB	Human-Canal	8:57	taking picture of the bath house	Lower section C bridge	Human-Canal
421		8:30	2 old women walking by the river	AB	Human-Canal	9:02	taking pictures of the bath house	Lower section C bridge	Human-Canal
422		8:39	Young woman 20 taking pictures of the schichijo side of Nintendo bridge with a dslr camera	middle section B	Human-Nature	9:15	A man sitting on the C/D bridge with his dog as he looks at the canal	C/D bridge	Human-Canal
423		8:46	Person cycling along the canal	AB	Human-Canal	9:23	Tourist couple bike by C/D bridge and stopped to look at the canal	C/D bridge	Human-Nature
424		8:47	Couple walking along the canal	lower section A	Human-Human	9:34	2 girls strolling down the canal as the look at the plants	Section C and D	Human-Nature
425		8:48	Man stopped by the bridge alongside another man and two women and then took a picture of the gojo side of Nintendo bridge	middle section B	Human-Canal	9:50	A tourist took picture of the canal on a bridge in front of the bathhouse (both side)	Section C	Human-Nature
426		8:50	Person sweeping leaves in front of their house by the park	upper section B	Human-Nature	10:05	Lady sweeping leaves by the Big persimmon tree	Section C	Human-Nature
427		8:59	Couple looking at trees as they're walking	Section A/B	Human-Nature	10:15	big group of elders walk by C and D from A(city tour?)	All Sections	Human-Canal
428		9:03	Guy using the temple on west side	Section A	Human-Canal	10:23	2 old lady looking at big rock	Section C	Human-Canal
429		9:08	Woman sweeping leaves in front of hotel	Section A/B	Human-Nature	10:40	Guy records the plants/Canal by bath house bridge	Section C	Human-Nature
430		9:07	Coffee place is closed even though it's usually open at this time(Sunday)	Section B	Human-Canal	10:50	tourist taking pictures of Canal on C/D bridge bushier side	C/D bridge	Human-Nature
431		9:23	Guy standing outside his house smoking a cigarette	Section B	Human-Canal	11:23	2 women taking pictures of canal by the C/D bridge	C/D bridge	Human-Nature
432		continued	Stopped for a whole in front of hotel and some guy talked for a while		Human-Human	2:55	Old man looking at the canal on C/D bridge	C/D bridge	Human-Nature
433		10:09	Woman walking dog	Section A/B	Human-Canal	3:02	2 man have a mini photoshoot by bathhouse	Section C	Human-Canal
434		10:13	Couple walking dog	Section A/B	Human-Canal	3:38	Girl walking as she records the plants and canal. Section C	Section C	Human-Nature
435		10:31	Woman sweeping leaves	Section A/B	Human-Nature	4:20	Two old ladies talking by the side of the canal as one of their dog pee in the bush. The ladies were also looking at the persimmon as they were standing under the tree	Section C	Human-Nature
436		10:40	Guy taking picture of gf posing on canal. And in front of hotel	Section B	Human-Nature	4:30	Tourist taking picture of the canal by bath house bridge toward park side	Section C	Human-Nature
437		10:42	Guy walking dog. Stopped at wooden thing in front of the beer lab	Section A	Human-Canal				
438		10:52	Guy on walking bridge taking pictures of river going north	Section A	Human-Nature				
439		11:04	Dad biking up canal with 2 daughters	Section A/B	Human-Canal				
440		11:23	Girl eating food on walking bridge and just looking at river	Section A	Human-Nature				
441		11:38	Guy sitting at walking bridge	Section A	Human-Canal				
442		11:40	People walk at straight outta hotel and look at river	Section B	Human-Nature				
443		11:55	I got stopped by the police and they were asking what we are doing	Section A	Human-Human				
444		12:23	Woman walking along the canal with a stroller?	lower section A	Human-Canal				
445		12:25	Couple walking along the canal the boy was pointing at the trees	upper section B	Human-Nature				
446		12:26	Murmur caffe never opened	upper section B	Human-Canal				
447		12:29	Couple walking along the canal and the woman took some pictures near the construction site where both of them stopped	upper section A	Human-Canal				
448		12:54	A man took a picture of two women by the gojo side of Nintendo bridge then they setup the camera and took a picture of all three of them	middle section B	Human-Canal				
449		12:58	Tourists arriving at first hotel with suitcases	upper section A	Human-Nature				
450		1:27	Couple stopped by second bridge to look at the river	middle section A	Human-Nature				
451		1:31	Group of 6 people walking down the river	upper section B	Human-Canal				
452		1:36	Mom and kid walking along the river and the kid was playing with the trees and leaves	lower section B	Human-Canal				
453		2:00	Mom and kid playing at the park	upper section B	Human-Canal				
454		2:07	Couple walking along the canal pointing at the tree in front of the restaurant across from the park	upper section B	Human-Nature				
455		2:34	The beer lab is open	Section A	Human-Canal				
456		2:38	3 guys stopped at shichijo bridge to look at river	Section A	Human-Nature				
457		2:49	Guy sitting on wood thing in front of beer lab	Section A	Human-Canal				
458		2:52	Guy walking dog	Section A/B	Human-Canal				

Sunday

469			6:28	Man was jogging along the river	AB	Human-Human	6:20	Woman sweeping leaves in front of her house by pink rabbit toy	Section D	Human-Nature
470			6:35	Older man walking by river looking at the crows near schichijo street	lower section A	Human-Canal	6:05	Man running along the canal, looped around as he was spotted twice. 2nd time spotted was 6:27 AM	Section D	Human-Canal
471			6:37	Old lady walking her Shiba Inu along the river up to Nintendo bridge	AB	Human-Canal	6:12	Old lady walking her dog along section C and D as she looks at the plants	Section C and D	Human-Nature
472			6:40	Two people cycling along the river	AB	Human-Nature	6:18	Girl walking her 3 dogs along the canal	Section C and D	Human-Canal
473			6:40	Man setting up his trash in front of restaurant and then turning on a garden hose to water his potted plants and some of the plants in front of his house	upper section B	Human-Canal	7:00	Woman walks along the river as she drinks coffee and looks at the canal and sunrise	Section C and D	Human-Canal
474			6:42	Lady walking two dogs along the river in the edge of the BC section near the park	upper section B	Human-Canal	7:20	Ki owner walked to the restaurant from Gojo side	Section D	Human-Canal
475			6:48	Person arrived to work at the preschool	lower section A	Human-Canal	8:01	Woman with her little kid hanging by the canal in front of bathhouse. They were looking at the water	Section C	Human-Canal
476			6:50	Man going to work by walking by the canal (he was wearing a suit)	AB	Human-Nature	8:12	Woman walking her dog down the canal as sle take picture of the japanese maple tree by C/D bridge	C/D bridge	Human-Nature
477			6:54	China rose by the empty parking spot near Nintendo bridge blossomed	lower section B	Human-Canal	8:41	Lady sweeping leaves in front of her house by the left of the bathhouse bridge	Section C	Human-Nature
478			6:54	Person sweeping leaves in front of restaurant	upper section B	Human-Nature	9:06	elderly man walking along canal	Section C	Human-Canal
479			7:07	Elderly lady walked up to the bridge looked over the Nintendo bridge to the shichijo side. Closed her hands and eyes to pray, then she bowed and walked away.	middle section B	Human-Nature	9:09	looking at signage	Section D	Human-Canal
480			7:10	Younger man walked by the shrine near the park, looked at it then bowed	upper section B	Human-Human	9:12	cutting shrubbery by big building	Section C	Human-Nature
481			7:17	Many businessmen walking across the bridge at this time	middle section B	Human-Canal	9:28	walking dog	Section C	Human-Canal
482			7:19	Man arrived to clean up the leaves of the park	upper section B	Human-Canal	9:40	sweeping leaves in front of house	Upper section C	Human-Nature
483			7:39	Woman arrive to help clean up the leaves at the park	upper section B	Human-Nature	9:53	people taking a phone call on bridge	Upper section C bridge	Human-Canal
484			7:42	Man walking his dog across the bridge	middle section B	Human-Canal	10:34	someone looking at the canal in front of the bath house	Lower section C	Human-Canal
485			7:58	Mumur caffe began to open (might have been earlier)	lower section B	Human-Canal	10:40	cutting down trees and branches	Upper section C bridge	Human-Nature
486			7:58	Woman racking leaves in front of her house	lower section A	Human-Canal	10:50	sitting by canal	Mid section D	Human-Canal
487			8:00	Women putting her trash out/fixing the trash that was pecked by crows	lower section A	Human-Canal	10:54	taking photo of the livemax hotel	Lower section D	Human-Canal
488			8:01	Women racking leaves in front of vending machine after second bridge	lower section A	Human-Canal	11:34	cleaning objects over the canal	Upper section D side roa	Human-Canal
489			8:05	Old man walking by the plants looking at them	lower section B	Human-Nature	11:42	people taking photos of the bath house	Lower section C	Human-Canal
490			8:11	Woman stopped by Nintendo bridge and took a picture in the gojo direction	middle section B	Human-Canal	12:10	Woman walking her dog up and down section C/D	Section C and D	Human-Canal
491			8:13	Woman cleaning leaves near bar near house	middle section A	Human-Nature	12:26	Man taking picture of flower by the bushes under the persimmon tree	Section C	Human-Nature
492			8:29	Park guy was raking leaves across the river from mumur caffe	lower section B	Human-Nature	12:37	a group of 3 people bike down from Gojo and exited by bath house bridge	Section C and D	Human-Canal
493			8:36	Group of elderly women walking along the canal	AB	Human-Human	12:53	Woman standing on bridge in front of bath house staring at the canal	Section C	Human-Nature
494			8:43	Kids arriving at the preschool	lower section A	Human-Canal	1:10	2 women walking down from section C and stopped by C/D bridge for picture	Section C and D	Human-Nature
495			8:45	Man changing the flowers and the tea at the shrine by schichijo street	lower section A	Human-Canal	1:18	man taking a picture of his girlfriend by bath house bridge	Section C	Human-Canal
496			8:49	Person sweeping leaves across from lady's house	lower section B	Human-Nature	13:43	Man taking panorama at bridge by bath house	Section C	Human-Nature
497			8:50	Two trash trucks came by Nintendo bridge	middle section B	Human-Canal	1:57	2 woman taking picture of bath house	Section C	Human-Canal
498			9:02	The coffee place is open	Section B	Human-Canal	14:30	guy walking 2 dogs up and down the canal, stopped by bathhouse bridge to look at the canal	Section C and D	Human-Nature
499		Monday	9:05	Cars parked in front of preschool	Section A	Human-Canal	15:05	two people on bikes looking at boat turn around plaque	Boat turn around site	Human-Canal
500			9:07	Old lady that has garden near walking bridge was doing something with her plants	Section A	Human-Nature	15:06	taking a photo of the bath house	Lower section C	Human-Canal
501			9:12	Guy walking dog	Section A/B	Human-Canal	15:06	standing in front of Livemax looking at hotel	Lower section D	Human-Canal
502			9:15	Guy sweeping leaves in front of his house	Section B	Human-Nature	15:13	walking two dogs	Lower section C	Human-Canal
503			9:16	Woman on bike bringing child to daycare	Section B-A	Human-Canal	15:20	looking at bulletin board	Upper section C side roa	Human-Canal
504			9:17	Many people sweeping leaves in front of business	Section A/B	Human-Nature	15:23	taking photos on bridge	Upper section C bridge	Human-Canal
505			9:17	Woman using temple	Section B	Human-Canal	15:34	sitting in front of KI	KI restaurant	Human-Canal
506			9:22	Woman picking at berries and then taking a picture	Section B	Human-Nature	15:41	sweeping leaves	Upper section B	Human-Nature
507			9:35	The water level is low today	Section A/B	Human-Nature	15:48	biking along canal	Section C	Human-Canal
508			9:38	Looks like there's some sort of yoga/stretching class going on at the park with all the old people	Section B	Human-Nature	15:50	someone taking the phone by the canal	Lower section C	Human-Canal
509			9:45	Person sitting on outside seating at coffee place	Section B	Human-Canal	15:52	reading a book by boat turn around plaque	Boat turn around site	Human-Canal
510			9:47	Woman walking and admiring the trees with dog in her hands	Section A/B	Human-Nature	16:03	parked on bike in front of bath house looking at phone	Lower section C	Human-Canal
511			10:20	Tourists on walking bridge taking pictures of both side	Section A	Human-Nature	16:10	sitting on bridge looking at phone	Lower section C bridge	Human-Canal
512			11:04	Tourists looking at the potted plants along the river	Section A	Human-Nature	16:24	two guys standing by the river smoking	Upper section C side roa	Human-Canal
513			11:36	The woman is moving some of the potted plants around	Section A	Human-Nature	16:32	walking a dog along the canal	Section C	Human-Canal
514			11:42	Woman sweeping in front of house	Section A	Human-Nature	16:36	looking at canal construction	Upper section D	Human-Canal
515			12:10	Woman was crossing the river and took a picture of the gojo side of Nintendo bridge	midle section B	Human-Canal	16:40	two people looking at bath house	Lower section C	Human-Canal
516			12:13	Two elderly people walking by the canal and stopped near the house under construction to look at the trees	upper section A	Human-Nature				

517			12:23	Person sweeping leaves near shichijo street halfway to the second bridge	lower section A	Human-Nature				
518			12:39	Woman walked onto the second bridge, took out what seemed to be a beer bottle out of her purse and began drinking while gazing at the gojo direction	middle section A	Human-Canal				
519			1:20	Group of 3 20yo biking along the river	AB	Human-Canal				
520			1:52	Couple stopped by the benches near the park by the river and stared into the river for around two minutes	upper section B	Human-Canal				
521			2:05	Group of foreigners walking by the river	AB	Human-Canal				
522			2:17	Woman stood next to the potted plants near the bridge and just stared at me	lower section A	Human-Nature				
523			2:32	There's nobody on either side	Section A/B	Human-Canal				
524			2:38	There's a chunk of wood that fell into the river that looks like it might've come off the big tree near B bridge	Section B	Nature				
525			2:58	Guy taking pictures of river and trees	Section B	Human-Nature				
526			3:03	Guy walking 2 dogs	Section A/B	Human-Canal				
527			3:13	Woman walking dog. Turned back around at walking bridge	Section A	Human-Canal				
528			3:20	Guy using the walking bridge to talk on the phone and use his e-cigarette	Section A	Human-Canal				
529			3:22	A lot of people sitting outside at coffee place	Section B	Human-Canal				
530			3:30	Guy walking dog	Section A/B	Human-Canal				
531			3:38	Mom and toddler hanging out and looking at the water at the walking bridge	Section A	Human-Nature				
532			3:48	Person walking dog	Section A/B	Human-Canal				
533			3:53	Person on shichijo bridge taking pictures	Section A	Human-Nature				
534			3:54	Kids looking at ducks in the river	Section A	Human-Nature				
535			3:55	Person stopped biking to look at tree Henri sent in the chat	Section A	Human-Nature				
536			4:38	Girl walking two dogs	Section A/B	Human-Canal				
537			4:42	Two woman walking dogs stopped in b bridge to talk	Section B	Human-Canal				
538			4:55	Woman walking dog	Section A,B	Human-Canal				

539	Saturday	6:32	Woman walking Shiba Inu	AB		6:04	walking along side canal	Section C	Human-Canal
540		8:38	Tadsuyo walking her dog	middle section B	Human-Canal	6:07	puting trash in the trash bin	Section C	Human-Canal
541		6:39	Man watering the potted plants in front of his house	upper section B	Human-Nature	6:11	biking along canal	Section C/D	Human-Canal
542		6:49	Woman walking her dog	AB	Human-Canal	6:17	walking dog	Section C/D	Human-Canal
543		6:49	Man walking around the river with his luggage	AB	Human-Canal	6:25	standing	Upper section C bridge	Human-Canal
544		6:52	Guy walking around with two dogs	AB	Human-Canal	6:31	walking along canal	Section C/D	Human-Canal
545		7:04	Man sweeping the leaves in front of ryokan yuhara	upper section B	Human-Nature	6:36	bringing trash to collection place	Section C	Human-Canal
546		7:08	Couple walking along the river	AB	Human-Nature	6:40	walking 2 white dogs along canal	Section C	Human-Canal
547		7:12	Man running along the canal	AB	Human-Canal	6:44	looking at trees	Upper section D	Human-Nature
548		7:18	Older lady walking along the canal	AB	Human-Canal	6:50	raking leaves	Section A	Human-Nature
549		7:26	Man walking to the park to clean the leaves	upper section B	Human-Canal	6:51	walking along canal for exercise	Section C/D	Human-Canal
550		7:28	Two men and one woman were cleaning the park. 7:41 they began cleaning the street	upper section B	Human-Nature	6:53	walking dog	Section C	Human-Canal
551		7:29	2x20M walking along the river	AB	Human-Canal	6:58	cycling along canal looking at scenery	Section C/D	Human-Nature
552		7:31	Man walking his schnauzer dog	AB	Human-Canal	7:00	walking along canal	Section C	Human-Canal
553		7:37	Woman walking dog	AB	Human-Nature	7:05	walking along canal (looking at houses more than canal)	Section C	Human-Canal
554		7:42	Two people jogging along the river	AB	Human-Canal	7:32	running a long canal	Section C/D	Human-Canal
555		8:02	Man from the park began to clean the corner by Nintendo bridge	upper section B	Human-Canal	7:34	raking leaves	Lower section C	Human-Nature
556		8:25	One guy and one older lady walking by the river (not together)	AB	Human-Canal	7:36	smoking	Section C	Human-Canal
557		8:26	Man running along the river	AB	Human-Nature	7:37	walking dogs	Boat turn around site	Human-Canal
558		8:26	Man taking pictures of the houses along the river	upper section B	Human-Nature	7:42	walking along canal looking at trees	Section C	Human-Canal
559		8:28	Woman biking by the river	AB	Human-Canal	7:45	running a long canal with dog	Section C/D	Human-Canal
560		8:29	Woman biking by the river	AB	Human-Canal	7:46	two elderly ladies walking along canal	Section C	Human-Canal
561		8:30	2 old women walking by the river	AB	Human-Canal	7:51	walking dog	Section D	Human-Canal
562		8:39	Young woman 20 taking pictures of the schichijo side of Nintendo bridge with a dslr camera	middle section B	Human-Nature	7:56	elderly guy trimming plants and picking fruit	Section B	Human-Nature
563		8:46	Person cycling along the canal	AB	Human-Canal	8:21	taking photo of the canal	Lower section C bridge	Human-Canal
564		8:47	Couple walking along the canal	lower section A	Human-Human	8:31	waiting on bridge by bath house	Lower section C bridge	Human-Canal
565		8:48	Man stopped by the bridge alongside another men and two women and then took a picture of the gojo side of Nintendo bridge	middle section B	Human-Canal	8:52	walking dog, dog sniffed and peed in a bush	Section C	Human-Nature
566		8:50	Person sweeping leaves in front of their house by the park	upper section B	Human-Nature	9:15	A man sitting on the C/D bridge with his dog as he looks at the canal	C/D bridge	Human-Canal
567		8:59	Couple looking at trees as they're walking	Section A/B	Human-Nature	9:23	Tourist couple bike by C/D bridge and stopped to look at the canal	C/D bridge	Human-Nature
568		9:03	Dad biking with daughter in back water proof basket. Brought to preschool x2	Section A/B	Human-Canal	9:34	2 girls strolling down the canal as the look at the plants	Section C and D	Human-Nature
569		9:04	Sweeping leaves in front house	Section B	Human-Nature	9:50	A tourist took picture of the canal on a bridge in front of the bathhouse (both side)	Section C	Human-Nature
570		9:05	Walking up from shichijo	Section A	Human-Canal	10:05	Lady sweeping leaves by the Big persimmon tree	Section C	Human-Nature
571		9:09	Guy bikes up to house with groceries from shichijo	Section A-B	Human-Canal	10:15	big group of elders walk by C and D from A(city tour?)	All Sections	Human-Canal
572		9:13	Truck turned north from B. Maybe garbage truck	Section B	Human-Canal	10:23	2 old lady looking at big rock	Section C	Human-Canal
573		9:15	Van from B-a parks in front of preschool with students	Section B-A	Human-Canal	10:40	Guy records the plants/Canal by bath house bridge	Section C	Human-Nature
574		9:16	Many bikes with waterproof cabins for children	Section B-A	Human-Canal	10:50	tourist taking pictures of Canal on C/D bridge bushier side	C/D bridge	Human-Nature
575		9:18	Came from main b bridge with kid on bike	Section B-A	Human-Canal	11:23	2 women taking pictures of canal by the C/D bridge	C/D bridge	Human-Nature
576		9:19	Came from side street near walk only bridge walking up towards b	Section A-B	Human-Canal	12:34	walking along canal recording trees and taking photos	Section C	Human-Canal
577		9:26	4 People walking up and down from b-a and a-b	Section A/B	Human-Canal	12:35	sitting in front of KI	KI restaurant	Human-Canal
578		9:29	Man walked down b-a then crossed walking only bridge to west side	Section B-A	Human-Canal	12:47	sitting alone canal	Section D	Human-Canal
579		9:35	Biker from shichijo all through B	Section B	Human-Canal	12:56	taking photos of canal	Lower section C bridge	Human-Canal
580		9:36	Walking down from b-a	Section B-A	Human-Canal	13:20	positing papers on bulletin board	Lower section D	Human-Canal
581		9:37	Resident biker bikes north and stayed in canal	Section A-B	Human-Canal	14:02	walking dog along canal	Section C/D	Human-Canal
582		9:41	There's a potted plant in the river at walk bridge	Section A	Human-Nature	14:09	looking at boat turn around plaque	Boat turn around site	Human-Canal
583		9:44	Taxi parked outside of hotel	Section A	Human-Canal	14:40	Man taking picture of tree/Canal in front of Bathhouse	Section C	Human-Nature
584		9:50	Guy walking from a-b delivering mail	Section A-B	Human-Canal	14:58	Old man looking at Canal from C/D bridge	Section C and D	Human-Nature
585		9:51	Girl walking a-b with groceries	Section A-B	Human-Canal	15:19		C/D bridge	Human-Nature
586		9:56	Tall van scraping on trees has to go slow	Section B-A	Human-Nature	3:24	Old man feeding 2 cats by big persimmon tree	Section C	Human-Nature
587		10:12	3 ladies walking together admiring the river	Section A/B	Human-Nature	15:49	Lady looking at the Big rock next to the wooden sign in front of the gravel field	Section C	Human-Canal
588		10:21	Lots of taxis have been parking at hotel	Section A/B	Human-Canal	16:27	2 female tourist walking from C to D and taking pictures of the canal as they walk	Section C and D	Human-Nature
589		10:26	No foot traffic either side	Section A/B	Human-Canal	16:35	Lady taking picture of the canal on C/D bridge toward bushier side	C/D bridge	Human-Nature
590		10:34	Couple people walking both directions	Section A/B	Human-Canal				
591		10:39	Guy walking from b to shichijo	Section B-A	Human-Canal				
592		10:45	Delivery truck parked on canal where no trees	Section A	Human-Canal				
593		10:48	Guy walking from b bridge to shichijo with suitcase	Section B-A	Human-Canal				
594		10:57	A couple walking together from a-b	Section A-B	Human-Canal				
595		11:00	Biker started at shichijo and turned on side street for shortcut	Section A	Human-Canal				
596		11:02	Old lady stopped on shichijo bridge to look at river	Section A	Human-Nature				
597		11:20	A couple people walking to shichijo	Section B-A	Human-Canal				
598		11:33	Delivery truck to big had to park in front of park and carry	Section B	Human-Canal				
599		11:36	No foot traffic either side	Section A/B	Human-Canal				

599		11:35	No foot traffic either side	Section A/B	Human-Canal
600		11:37	Walked From side street used walking bridge as shortcut	Section A	Human-Canal
601		11:48	Dad and kid taking pictures on shichijo bridge of river	Section A	Human-Nature
602		11:59	A lot of people used the bike rental place	Section A	Human-Canal
603		12:33	Lady came out of beer lab to clean some leaves and then went back in	upper section A	Human-Nature
604		12:40	60F walking by the river	AB	Human-Canal
605		12:42	60F cleaning her garage after the middle bridge	lower section A	Human-Nature
606		12:42	40F was going around the river and briefly stopped to see some plants	middle section A	Human-Canal
607		12:58	Couple walking along the river looking at plants	middle section A	Human-Canal
608		1:27	People walking the canal with luggage until they got to their hotel	section A	Human-Nature
609		1:33	Couple walking by river looking up at the trees	AB	Human-Canal
610		1:34	Two people walking along the canal with luggage	AB	Human-Canal
611		1:45	4 people sitting by the river in front of the beer garden drinking. They are all sitting with their legs over the river walls	upper section A	Human-Nature
612		1:48	A lot of people in the beer lab (around 8-10)	upper section A	Human-Canal
613		2:15	People with luggage coming up from CD down to AB	AB	Human-Canal
614		2:53	Grandma with granddaughter sweeping the leaves	Section A	Human-Nature
615		2:53	Guy walking up and down canal for exercise	Section A/B	Human-Canal
616		2:55	Mom and kid learning to ride bike with training wheels along canal	Section A/B	Human-Canal
617		2:55	Older guys standing in bridge talking about building	Section A	Human-Canal
618		2:56	Couple standing on wooden thing in front of beer and looking at river	Section A	Human-Nature
619		3:22	Guy walking two dogs	Section A/B	Human-Canal
620		3:24	First van in front of school	Section A	Human-Canal
621		3:30	Person walking dog	Section A/B	Human-Canal
622		3:40	Person walking dog	Section A/B	Human-Canal
623		3:43	One of the hotel workers went into the river and was poking around all the leaf clumps to find anything to throwaway but left the leaves in. Also used tongs	Section A/B	Human-Nature
624		3:47	Person walking dog	Section A/B	Human-Canal
625		3:49	Person walking dog	Section A/B	Human-Canal
626		3:54	Hotel worker trimming little bush in front of north one	Section B	Human-Nature
627		3:58	Older guy sweeping in front of house	Section A	Human-Nature
628		4:00	Older couple looking at river while walking a-b	Section A-B	Human-Nature
629		4:03	Looks like a lot of flowers are blooming now	Section A/B	Human-Nature
630		4:14	Woman used pot on stick to get water to fill watering can	Section A	Human-Nature
631		4:15	Using water to water the plants in west side of A right before walking bridge. Mini garden think	Section A	Human-Nature
632		4:27	Now she has climbed into the river and is using the pot stick thing to directly water the plants	Section A	Human-Nature
633		4:42	Woman at temple	Section A/B	Human-Canal
634		4:48	Woman walking dog	Section A/B	Human-Canal
635		4:53	Beer place doesn't seem as busy as usual	Section A	Human-Canal

459		2:53	Guy walking 2 dogs	Section A/B	Human-Canal
460		3:33	Guy on walking bridge to take pictures of south	Section A	Human-Nature
461		3:42	Old lady with bucket near walking bridge is out and is pointing at trees and such with somebody who I think is her grandson	Section A	Human-Nature
462		4:00	Guy walking dog	Section A/B	Human-Canal
463		4:02	Woman walking dog	Section A.B	Human-Canal
464		4:13	Nobody on either side	Section A/B	Human-Canal
465		4:23	Woman came on walking bridge to take pictures of both sides	Section A	Human-Nature
466		4:24	Guy sitting on wooden thing in front of beer lab smoking a cigarette	Section A	Human-Canal
467		4:35	Woman walking dog	Section A/B	Human-Canal
468		4:46	A couple sitting on wooden thing in front of beer lab taking picture of beer with river in background	Section A/B	Human-Nature

517			12:23	Person sweeping leaves near schichijo street halfway to the second bridge	lower section A	Human-Nature				
518			12:39	Woman walked onto the second bridge, took out what seemed to be a beer bottle out of her purse and began drinking while gazing at the gojo direction	middle section A	Human-Canal				
519			1:20	Group of 3 20yo biking along the river	AB	Human-Canal				
520			1:52	Couple stopped by the benches near the park by the river and stared into the river for around two minutes	upper section B	Human-Canal				
521			2:06	Group of foreigners walking by the river	AB	Human-Canal				
522			2:17	Woman stood next to the potted plants near the bridge and just stared at me	lower section A	Human-Nature				
523			2:32	There's nobody on either side	Section A/B	Human-Canal				
524			2:38	There's a chunk of wood that fell into the river that looks like it might've come off the big tree near B bridge	Section B	Nature				
525			2:58	Guy taking pictures of river and trees	Section B	Human-Nature				
526			3:03	Guy walking 2 dogs	Section A/B	Human-Canal				
527			3:13	Woman walking dog. Turned back around at walking bridge	Section A	Human-Canal				
528			3:20	Guy using the walking bridge to talk on the phone and use his e-cigarette	Section A	Human-Canal				
529			3:22	A lot of people sitting outside at coffee place	Section B	Human-Canal				
530			3:30	Guy walking dog	Section A/B	Human-Canal				
531			3:38	Mom and toddler hanging out and looking at the water at the walking bridge	Section A	Human-Nature				
532			3:48	Person walking dog	Section A/B	Human-Canal				
533			3:53	Person on shichijo bridge taking pictures	Section A	Human-Nature				
534			3:54	Kids looking at ducks in the river	Section A	Human-Nature				
535			3:55	Person stopped biking to look at tree Henri sent in the chat	Section A	Human-Nature				
536			4:38	Girl walking two dogs	Section A/B	Human-Canal				
537			4:42	Two woman walking dogs stopped in b bridge to talk	Section B	Human-Canal				
538			4:55	Woman walking dog	Section A.B	Human-Canal				

Appendix C: Interview Questions in English and Japanese

1. What is your name?
    - How old are you?
    - How long have you lived in this neighborhood?
        - How was it like living here in the past compared to now?
        - What are some changes, if any, that you noticed?
    - Did you have family that lived here before you?
        - Did they live in the same or a different house?
    - Do you currently work in this neighborhood?
        - Where do you work?
        - How long have you been working there?

2. Do you use the Takase River canal for anything?
    - If yes, can you tell us more about how you use it?
    - Do you or your family have any connections with any of the plants/trees along the canal?
        - Do you have any favorite trees?
        - How do you feel about the current looks of the vegetation?
        - Is there anything that you would like to change about it?
    - Do the trees make you feel safe?
        - Is there an instance where the tree made you feel at risk in the past?
        - Have any trees ever fallen and damaged something?
    - Do you clean the leaves/fruit litter along the canal?
        - How do you feel about the leaves/fruit litter along the sidewalk of the canal?
        - Do you enjoy cleaning the leaves/ doing chores around the canal?
    - Do you grow any plants along the canal?
        - Do you enjoy taking care of the plants along the canal?
        - How would you feel if plants/trees were removed along the canal?

3. How did you find out about the current restoration plan?
    - What is your feeling about this restoration project?
    - What is your feeling toward the restoration that was done between Nijo and Gojo Street?
        - How do you think the plants/trees affect your house/business?

4. Do you feel that this restoration will attract more tourists?
    - What is your opinion of tourists in this area?

- What is your feeling towards the number of hotels and guesthouses in this area?
- Are there more or less people coming to visit this area in recent years and what do they come here for?
- Are residents moving away from the area, have any businesses closed?

5. What would you like to see done to the canal?

6. What are the effects COVID-19 has on this community? For example, the number of tourists?

If the interviewee is against the current plan.

1. Why are you not happy with the current restoration plan?
2. Are you aware of the reason(s) why the plan is in place?
3. Do you or your family have any personal connections to the trees/vegetation along the canal?
4. Do you feel like the trees pose any risk to your house or business?
5. What are your main concerns with the restoration project?
6. Would you rather the trees be left the way it is?
7. After the restoration is complete, if property and land prices in the area increase, would this affect you in any way?

Japanese version:

1. あなたのお名前は？
   - あなたは何歳ですか？
   - この近所に住んで何年になりますか？
     - 今と比べて、昔の暮らしはどうだったのでしょうか?
     - 気づいた変化などがあれば教えてください。
   - ご家族は先にここに住んでいたのでしょうか？
     - 同じ家に住んでいたのか、それとも違う家に住んでいたのか？
   - 現在、この近辺でお仕事をされているのでしょうか？
     - 勤務地はどこですか？
     - いつから働いているのですか？

2. 高瀬川運河は何かに使っているのでしょうか？
   - はい」の場合、どのように使っているのか、詳しく教えてください。
   - あなたやあなたのご家族は、運河沿いの植物や樹木に何かゆかりがありますか？

- お気に入りの木はありますか？
- 現在の植生の見た目についてはいかがですか？
- その際、何か変えたいと思うことはありますか？

- 植栽があることで、プライバシーが保たれていると思いますか？
- 木を見ていると安心する？
  - 過去にこのツリーで危険を感じた事例はありますか？
  - 木が倒れて何かを破損したことはありますか？
- 運河沿いの落ち葉・果物のゴミは掃除しているのですか？
  - 運河の歩道沿いの落ち葉・果実の散乱について、どう思われますか
  - 水路周辺の落ち葉掃除や雑用は楽しいですか？
- 運河沿いで何か植物を育てているのですか？
  - 運河沿いの植物の手入れをするのは楽しいですか？
  - 運河沿いの植物や木が撤去されたらどう思いますか？

3) 今回の復旧計画をどのようにお知りになりましたか？
- 今回の修復プロジェクトにかける思いは？
- 二条通りから五条通りにかけて行われた修復について、どのような印象をお持ちですか?
  - 植物／樹木が家／会社に与える影響についてどう思いますか？

4) 今回の修復で、観光客が増えると感じますか？
- この地域の観光客について、どのようにお考えですか？
  - もし観光客がいえたら、子供を監視なしに置いていくのはどう思いますか？
- この地域のホテルやゲストハウスの数について、どのようにお感じになりますか？
- 近年、運河浴いにはビジネスホテルやグストハウス、レストランなどが増えているようですが。
- 近年、この地域を訪れる人は増えているのか、減っているのか、また、何を目的に訪れているのでしょうか。
- 住民の転出や企業の閉鎖はないのか？

5) 運河に何をしてほしいか？

6) COVID-19がこの地域に及ぼす影響とは何でしょうか？例えば、観光客の数？

インタビュー対象者が現行計画に反対している場合。

1) 現在の復旧計画に不満があるのはなぜですか？

2) あなたは、この計画が実施されている理由を知っていますか？
3) あなたやあなたのご家族は、運河沿いの樹木や植生に何か個人的なつながりがありますか？
4) その木が家や会社に危険を及ぼすと感じますか？
5) 復元プロジェクトで一番気になることは何ですか？
6) 木はそのままの方がいいのでしょうか？

Appendix D: Short and Long Survey questions along with their Translated Versions.

WPI

Hello, we are a group of college students from Worcester Polytechnic Institute in America. We are here to gather information to help aid the Takase River restoration project (Feel free to flip to the back to find out more about our project). Would you be willing to take 3 minutes to answer some questions?

Name: _____ Contact us at: **gr-kyotoa22_urr@wpi.edu**

	Questions:
1	How old are you? ◯ Less than 30 years ◯ More than 30 less than 60 years ◯ More than 60 years
2	Do you live or work here, and for how long? ◯ I live here ◯ I work here | I have lived/worked here for _____
3	How many generations before you has your family lived in this neighborhood? ◯ 0 Generations ◯ 1 Generation ◯ 2 Generations ◯ 3 or more generations
4	Do you have any of the following **connections** with any of the plants/trees along the river? ◯ None ◯ I planted a plant/tree ◯ My ancestor planted a plant/tree ◯ I currently take care of a plant/tree ◯ Other: _____
5	In your experience, have you ever felt at risk or threatened by the trees? In general: ◯ Not at all ◯ Somewhat ◯ Very threatened During a storm or bad weather: ◯ Not at all ◯ Somewhat ◯ Very threatened
6	How did you become aware of the canal restoration project taking place from Shichijo to Gojo street? ◯ Bulletin board ◯ Community Meeting ◯ Told by someone you know ◯ Other: _____
7	How do you feel about the look of the restoration from Nijo to Gojo Street? ◯ I don't like it ◯ I somewhat like it ◯ I like it alot ◯ Other:_____
8	How would you feel if plants/trees were removed along the canal? Please explain why. ◯ I wouldn't like it ◯ I would somewhat like it ◯ I would like it alot ◯ Other:_____ Explain: _____
9	How do you think the plants/trees affect your house/business? Please explain why. ◯ Not at all ◯ Removes value from it ◯ Adds value to it Explain:_____
10	What would you like to see done to the canal? Short Answer: _____

Thank you very much for your response!! If you are interested in answering more questions to help us with our research, please leave your contact information below, and we will follow up with you shortly. Contact Information: _____

WPI

If there is anything else you would like to add please write it below:

_____

_____

_____

_____

_____

_____

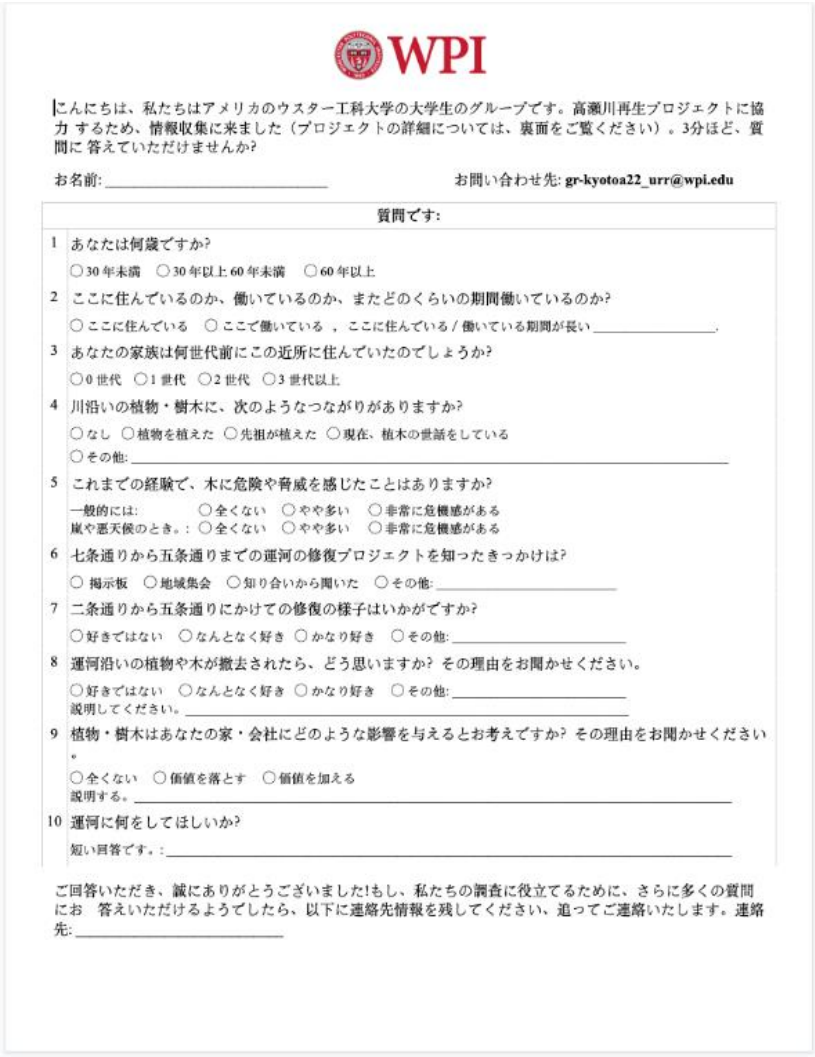
_____

_____.

About the Project

Our project consists of collecting the locals' opinions on the restoration's current state and any possible changes to the project you would like to see occur. This could include the state of the trees and vegetation along the canal, whether you would like to see specific trees to be removed or kept along the canal. From the survey, we are also hoping to learn more about your connection to the Takase River canal as a resident of Kikuhama and how the project implementation can affect you. With all the responses we gathered, we will go through and analyze the data and propose an alternative approach to the project that best satisfies all stakeholders involved.

Japanese Version:



こんにちは、私たちはアメリカのウスター工科大学の大学生のグループです。高瀬川再生プロジェクトに協力 するため、情報収集に来ました（プロジェクトの詳細については、裏面をご覧ください）。3分ほど、質問に 答えていただけませんか?

お名前: _____ お問い合わせ先: **gr-kyotoa22_urr@wpi.edu**

質問です:

1 あなたは何歳ですか?
○30 年未満 ○30 年以上 60 年未満 ○60 年以上

2 ここに住んでいるのか、働いているのか、またどのくらいの期間働いているのか?
○ ここに住んでいる ○ ここで働いている ， ここに住んでいる / 働いている期間が長い _____.

3 あなたの家族は何世代前にこの近所に住んでいたのでしょうか?
○0 世代 ○1 世代 ○2 世代 ○3 世代以上

4 川沿いの植物・樹木に、次のようなつながりがありますか?
○なし ○植物を植えた ○先祖が植えた ○現在、植木の世話をしている
○その他: _____

5 これまでの経験で、木に危険や脅威を感じたことはありますか?
一般的には: ○全くない ○やや多い ○非常に危機感がある
嵐や悪天候のとき。: ○全くない ○やや多い ○非常に危機感がある

6 七条通りから五条通りまでの運河の修復プロジェクトを知ったきっかけは?
○ 掲示板 ○地域集会 ○知り合いから聞いた ○その他: _____

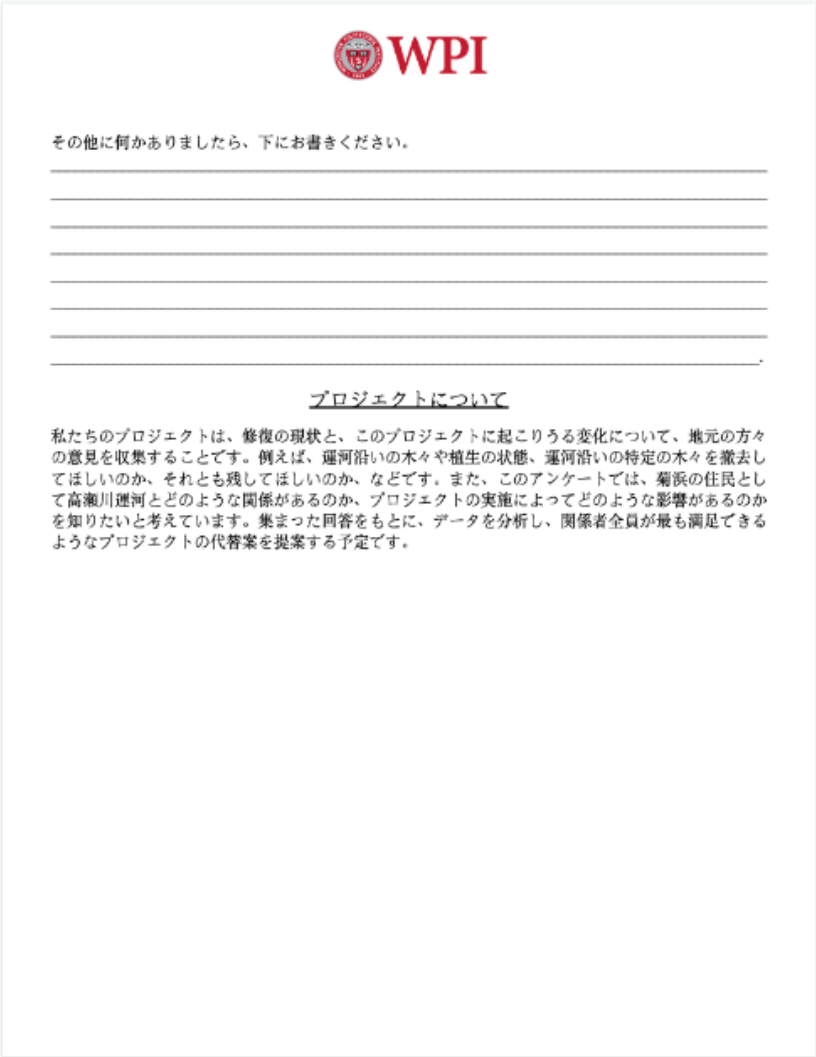
7 二条通りから五条通りにかけての修復の様子はいかがですか?
○好きではない ○なんとなく好き ○かなり好き ○その他: _____

8 運河沿いの植物や木が撤去されたら、どう思いますか? その理由をお聞かせください。
○好きではない ○なんとなく好き ○かなり好き ○その他: _____
説明してください。 _____

9 植物・樹木はあなたの家・会社にどのような影響を与えるとお考えですか? その理由をお聞かせください。
○全くない ○価値を落とす ○価値を加える
説明する。 _____

10 運河に何をしてほしいか?
短い回答です。: _____

ご回答いただき、誠にありがとうございました!もし、私たちの調査に役立てるために、さらに多くの質問にお 答えいただけるようでしたら、以下に連絡先情報を残してください、追ってご連絡いたします。連絡先: _____



その他に何かありましたら、下にお書きください。

_____
_____
_____
_____
_____
_____
_____
_____.

プロジェクトについて

私たちのプロジェクトは、修復の現状と、このプロジェクトに起こりうる変化について、地元の方々の意見を収集することです。例えば、運河沿いの木々や植生の状態、運河沿いの特定の木々を撤去してほしいのか、それとも残してほしいのか、などです。また、このアンケートでは、菊浜の住民として高瀬川運河とどのような関係があるのか、プロジェクトの実施によってどのような影響があるのかを知りたいと考えています。集まった回答をもとに、データを分析し、関係者全員が最も満足できるようなプロジェクトの代替案を提案する予定です。

WPI

Hello, we are a group of college students from Worcester Polytechnic Institute in America. We are here to gather information to help aid the Takase River restoration project (Feel free to flip to the back to find out more about our project). Would you be willing to take 10 minutes to answer some questions?

Name: _____ Contact us at: **gr-kyotoa22_urr@wpi.edu**

Did you grow up along the canal? If so, how was it like to live here in the past and how has it changed since?

How do you use the canal today (do you take care of any plants/trees along the canal, do you eat the fruits from the trees in the area, do you clean any of the fruit or leaves on the floor)?

Is there any specific moment that you felt in danger because of the plant/trees along the canal? Has any tree ever fallen or damaged a house in the area? Does your house/business have any cracks or other forms of damage along the floor, walls, or ceiling?

WPI

こんにちは、私たちはアメリカのウスター・ポリテクニク・インスティテュートの大学生グループです。私 たちの目的は 高瀬川再生プロジェクトにご協力いただくための情報です（裏面をめくると、プロジェクトの詳細をご覧いただけます）。10分ほど、質問に答えていただけませんか?

お名前: _____ お問い合わせ先 **gr-kyotoa22_urr@wpi.edu**

あなたは運河沿いで育ったのですか? もしそうなら、昔はここでどのように暮らしていたのか、そしてその後 どのように変化したのか、教えてください。

現在、運河をどのように利用していますか（運河沿いの草木の手入れをしているか、周辺の木の実を食べているか、床に落ちた実や葉を掃除しているか）。

運河沿いの草木のために危険を感じた瞬間にありますか? この地域で木が倒れたり、家が壊れたりしたことはありますか? あなたの家・会社では、床・壁・天井にひび割れなどの被害はありませんか?

In recent years have more businesses, hotels, guesthouses or restaurants opened along the canal? Are there more or less people coming to visit this area in recent years and what do they come here for? Are residents moving away from the area, have any businesses closed?

Has the number of tourists along the canal changed throughout the years and how do you feel about the change? Would an increase in tourists affect your business or your life along the canal? If so, in what kinds of ways would it affect you or your family?

近年、運河沿いにはビジネスホテルやゲストハウス、レストランなどが増えているのでしょうか? また、その 数は増えている 近年、この地域を訪れる人々は、何を目的にこの地を訪れているのでしょうか? 住民がこの地域から離れてい のか減っているのか? っているのか、何かビジネスが閉鎖されたのか?

運河沿いの観光客の数は年々変化していますか、また、その変化についてどう感じていますか? 観光客の増加 は、あなたのビジネスや運河沿いの生活に影響を与えるでしょうか? もしそうなら、あなたやあなたの家族にはどのような影響があるのでしょうか?

WPI

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WPI

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Appendix E: Original Tree Stability Index

Class Value	Height Classes	CR Classes	CFR Classes	H/D Classes	DS Classes	CAI Classes
1	<5m	<0.33	<0.50	<30	<0.50	R1=R2=R3=R4
2	5 m-10 m	0.34-0.5	0.51-0.75	30-60	0.51-0.75	R1=R2 and R3=R4
3	10 m-15 m	0.51-0.66	0.76-1.00	60-90	0.76-1.00	R1 > R2 or R1 < R2 and R3 = R4
4	15 m-20 m	>0.67	>1.00	>90	>1.00	R1 ≠ R2 ≠ R3 ≠ R4

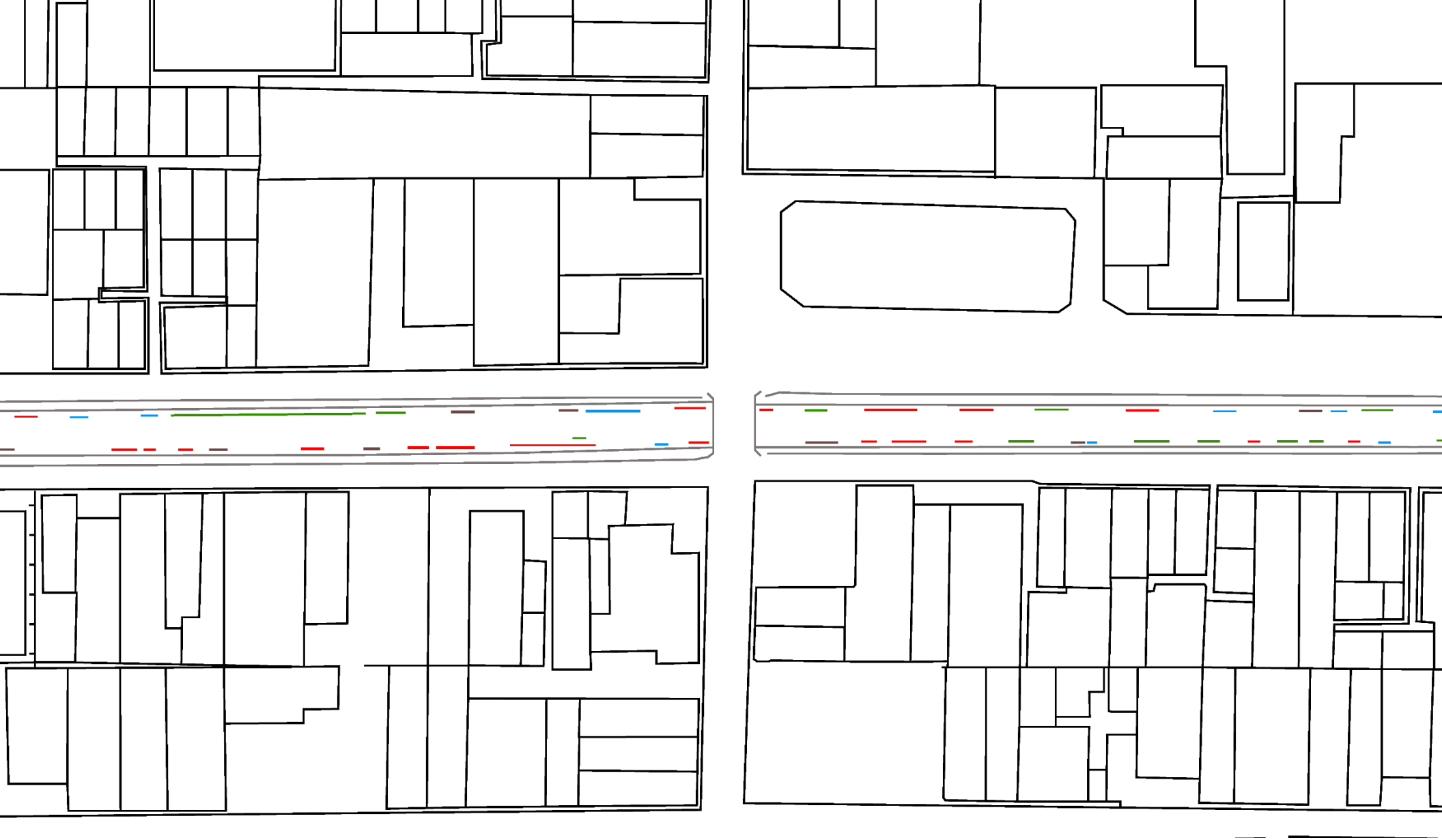
Appendix F: Risky Tree Map ordered Section A-D


B-138
B-124
B-126
B-137
B-114
B-86
B-51
B-91
B-202
B-214
B-190
B-49
B-1
B-27


C-120
C-16
C-23
C-3
C-15
C-32
C-48
C-52
C-103
C-99
C-76
C-80
C-84
C-88
C-87

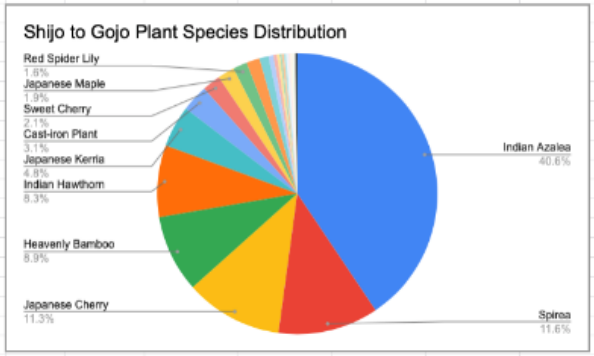

D-50
D-49
D-30
D-27
D-24

Appendix G: Insert Canal Damage Map* ordered *Section A-D



Appendix H: Species Data from Group 5

	Vegetation Name	S/T	Produce	Region 1 Sightings	Region 1 %	Region 2 Sightings	Region 2 %
4	Indian Azalea	S		85	15.56776557	501	40.56680162
5	Spirea	S		25	4.578754579	143	11.57894737
6	Japanese Cherry	T	Y	88	16.11721612	139	11.25506073
7	Heavenly Bamboo	S		2	0.366300366	110	8.908882591
8	Indian Hawthorn	S	Y			102	8.259109312
9	Japanese Kerria	S	Y	10	1.831501832	59	4.777327935
10	Cast-iron Plant	S				38	3.076923077
11	Sweet Cherry	T	Y	4	0.732600733	26	2.105263158
12	Japanese Maple	T		4	0.732600733	24	1.943319838
13	Red Spider Lily	S		3	0.549450549	20	1.619433198
14	Japanese Camellia	S	Y	2	0.366300366	19	1.538461538
15	Greenstem Forsythia	S		3	0.549450549	13	1.052631579
16	Chinaberry Tree	S	Y			7	0.566801619
17	Cane	S	Y			5	0.4048583
18	River Birch	T	Y			4	0.32388664
19	Cherry Plum	T	Y			3	0.24291498
20	Crepe Myrtle	T				3	0.24291498
21	Hibiscus	T	Y			3	0.24291498
22	Rose of Sharon	T	Y			3	0.24291498
23	Weeping Willow	T		21	3.846153846	3	0.24291498
24	Yuccas	S				3	0.24291498
25	Pink Sorrel	S	Y			2	0.16194332
26	Box Elder	T	Y			1	0.08097166
27	Japanese Persimmon	T	Y			1	0.08097166
28	Pride of India	T	Y			1	0.08097166
29	Silver Birch	T	Y			1	0.08097166
30	Tree of Heaven	T				1	0.08097166
31	Beauty Bush	S		5	0.915750916		
32	Beggarticks	S	Y	1	0.183150183		
33	Cape Jasmine	S		8	1.465201465		
34	Chinese Elm	T	Y	2	0.366300366		
35	Chinese Hackberry	T	Y	3	0.549450549		
36	Dandelion	S	Y	5	0.915750916		
37	Dock	S		1	0.183150183		
38	English Ivy	S		3	0.549450549		
39	Hydrangea	S	Y	13	2.380952381		
40	Lady's Thumb	S		1	0.183150183		
41	Lilyturf	S		7	1.282051282		
42	Mandarin Orange	T	Y	1	0.183150183		
43	Mugwort	S		6	1.098901099		
44	Muku	S	Y	1	0.183150183		
45	Myrtle	S	Y	59	10.80586081		
46	Paper Plant	S		4	0.732600733		
47	Photinia	S		153	28.02197802		
48	Pokeweed	S		2	0.366300366		
49	Prickly Chaff Flower	S		2	0.366300366		
50	Rose	S	Y	1	0.183150183		
51	Siberan elm	S	Y	1	0.183150183		
52	Snow Rose	S		1	0.183150183		
53	Trident Maple	T		1	0.183150183		
54	Whitebell Enkianthus	S		18	3.296703297		



Appendix I: Detailed Map of each Section of the Canal


C-134
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D-53

Appendix J: Kyoto Construction Bureau Conversation

D: What are you guys going to do with the trees?

Worker: We are cutting down trees that are not tagged

D: Are you cutting down all of the untagged trees?

Worker: We are only cutting down unhealthy trees

D: Are you replacing the trees you are cutting down? We noticed that trees in the area close to Gojo have been cut down but have yet to be replaced.

Worker: We will replace the trees we are cutting down

D: Will they be fruit trees?

Worker: No, no fruit tree, only ornamental plants

D: Will they be cherry blossoms?

Worker: No, we have not decided on the species yet.

D: Will the area be the same as Nijo to Gojo?

Worker: No, it will be different from Nijo to Gojo

D: Will all ribboned trees be kept?

Worker: yes, it is confirmed that all ribboned trees will be kept. We are currently reassessing the trees to try to save more.

D: How are you doing this?

Worker: We hired three different companies to reassess the trees. We will have an information session sometime in December when the new plan is finalized regarding the trees we are keeping.

D: What day will this be?

Worker: We don't have a specific date yet, but will be sometime in December.

D: Can you tell us more about the plan?

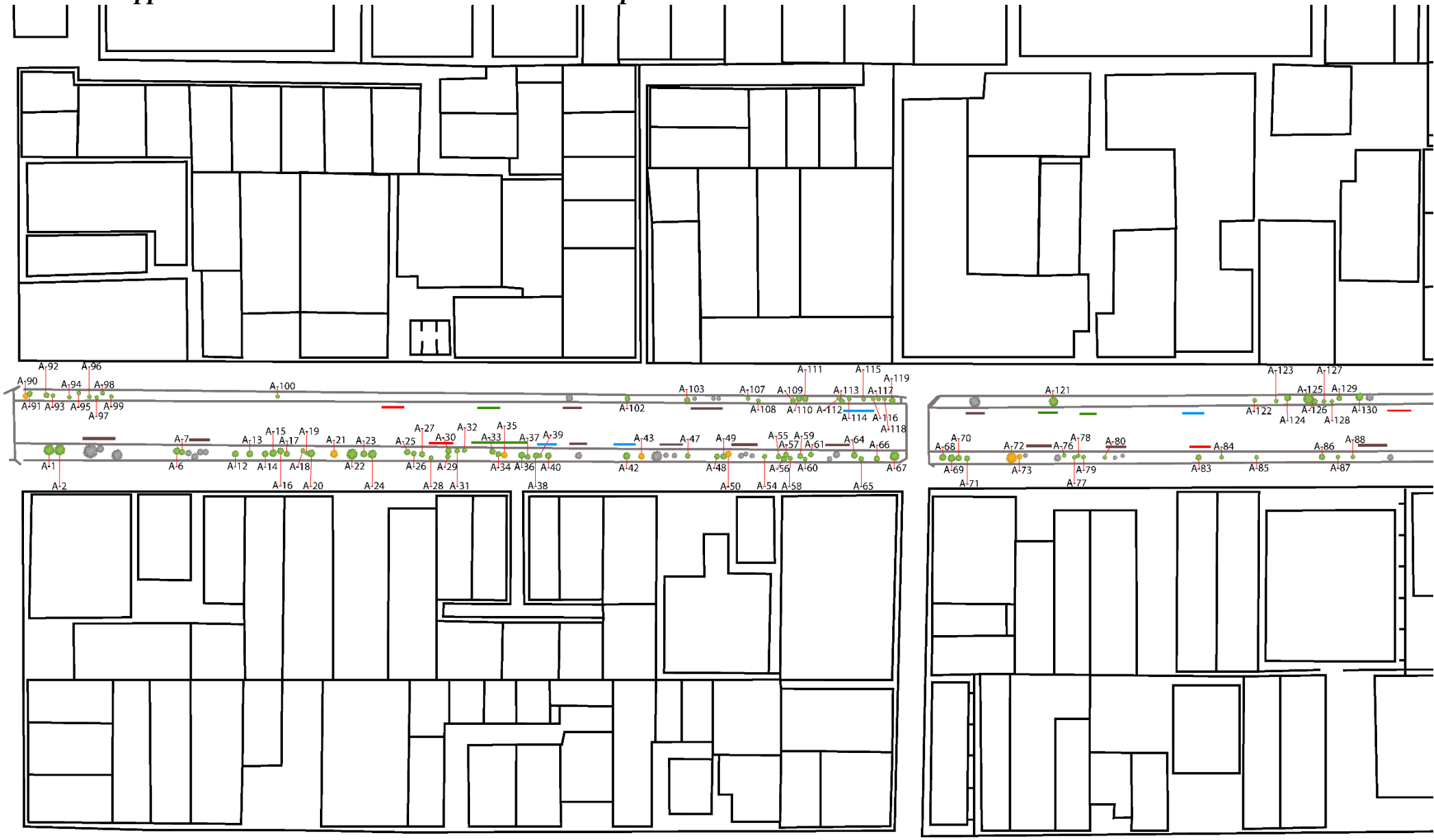
Worker: No, we can't discuss this until the information session.

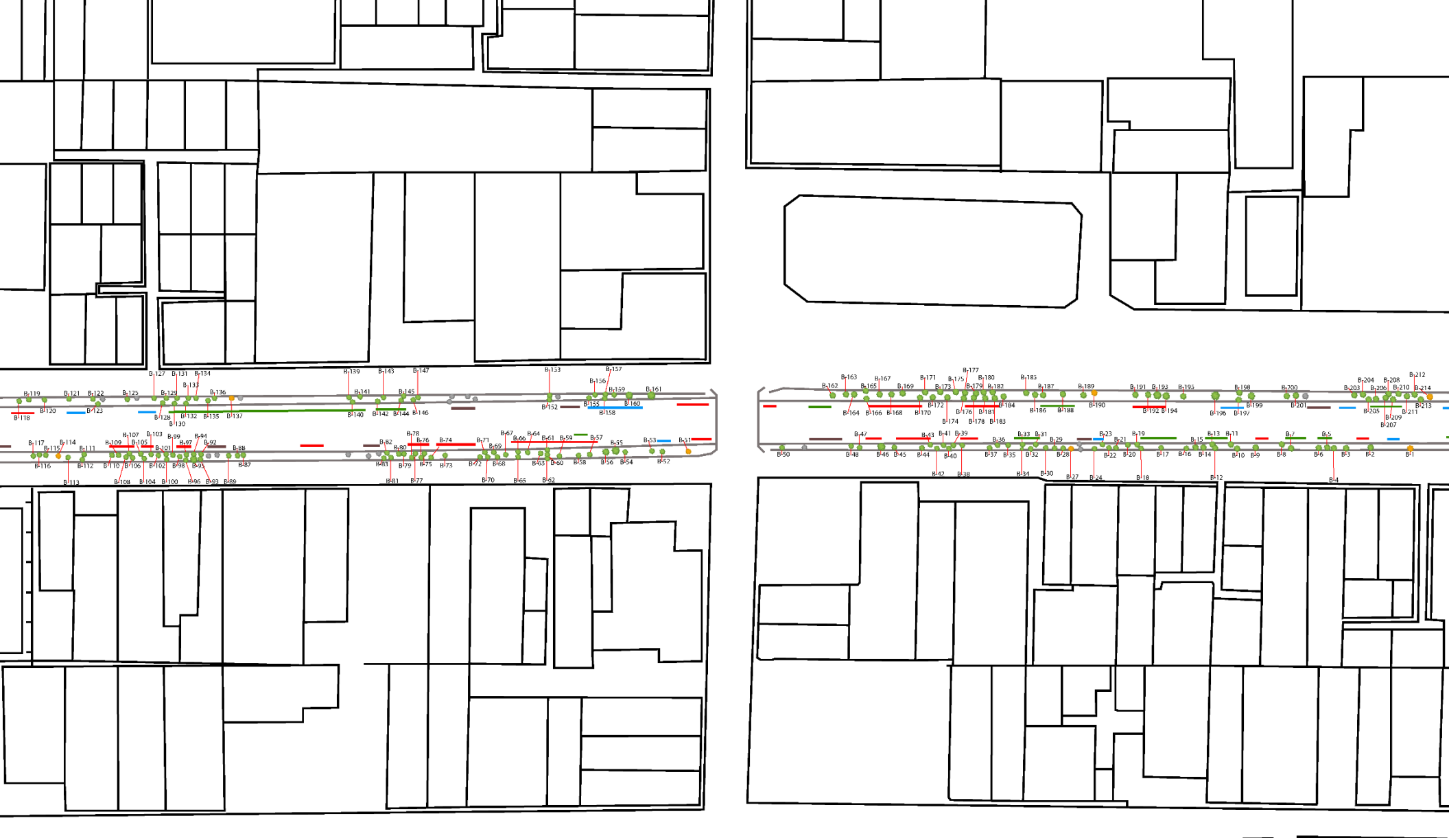
Appendix K: Raw Tree Risk Assessment Data

#	Tree ID	Hazard Assessment				Estimated Height	Stability Assessment				Health Assessment	Excessive Lean of Tree
		FP	SDP	TR	Score		HC	CRC	CAIC	Score	THA	
1	A5	1	1	1	3	6m	2	3	3	8	Dead branch	No
2	A21	1	1	1	3	5m	2	2	2	6	Powerline	No
3	A35	1	1	1	3	6m	2	3	2	7	Powerline	No
4	A43	1	1	1	3	11m	3	3	2	8	Powerline	No
5	A46	1	1	1	3	13m	4	3	2	9	Powerline	No
6	A50	2	2	1	5	8m	2	2	3	7	Trunk Caivity	No
7	A72	2	1	2	5	11m	3	3	3	9	Powerline/Houses	Yes, but fixable
8	A73	1	1	2	4	11m	3	2	3	8	Powerline	No
9	A90	1	1	1	3	10.5m	3	2	1	6	Powerline	No
10	A131	2	1	2	5	9m	2	3	3	8	Powerline/Leaning	Yes
11	B1	1	1	1	3	10.9m	3	3	2	8	Powerline	No
12	B27	1	1	2	4	14m	3	3	3	9	Leaning/Powerline	No
13	B49	1	1	1	3	10.5m	3	2	3	8	Powerline	No
14	B51	1	1	2	4	12m	3	4	1	8	Powerline	No
15	B86	2	1	2	5	7.5m	2	4	3	9	Powerline/Leaning	Yes
16	B91	1	1	1	3	8m	2	3	3	8	Powerline	No
17	B114	1	1	1	3	7m	2	2	3	7	Powerline/Leaning	No
18	B124	2	1	1	4	9.3m	2	4	3	9	Powerline/Leaning	Yes
19	B126	2	1	2	5	9.3m	2	3	4	9	Powerline/Leaning	Yes
20	B137	1	1	1	3	10m	3	3	3	9	Powerline/broken branch	No
21	B138	2	1	2	5	9.75m	2	2	3	7	Powerline/Leaning	Yes
22	B190	1	1	2	4	10.25m	3	4	1	8	Big branches	No
23	B202	1	1	2	4	12m	3	3	1	7	Big Crown	No
24	B214	1	1	2	4	14.5m	3	3	1	7	Big Crown	No
25	C3	3	2	1	6	9.5m	2	1	4	7	Root Cavity	No
26	C15	1	1	1	3	11.5m	3	3	3	9	Leaning over street	No
27	C16	2	2	1	5	6.7m	2	1	3	6	Trunk Caivity	No
28	C23	3	2	1	6	6.8m	2	1	4	7	Trunk Caivity	No
29	C32	1	1	1	3	13.5m	3	3	1	7	Powerline	No
30	C48	2	2	1	5	10m	3	2	1	6	Root cavity	No
31	C52	1	1	2	4	16m	3	2	1	6	Leaning over house/sidewa	No
32	C76	1	1	1	3	16m	3	3	1	7	Powerline/large tree	No
33	C80	2	2	2	6	9m	2	2	3	7	Trunk Cavity	No
34	C84	2	2	1	5	9m	2	2	3	7	Trunk Cavity/Leaning	No
35	C87	2	2	1	5	9m	2	2	2	6	Trunk Cavity/Leaning	No
36	C88	1	1	1	3	9m	2	2	2	6	Leaning	No
37	C99	2	1	2	5	14m	3	3	1	7	Leaning over street	Yes
38	C103	1	1	1	3	14m	3	3	3	9	Leaning over street	No
39	C120	3	3	1	7	3.8m	1	2	1	4	Trunk Cavity	Yes
40	D24	1	1	2	4	18m	4	2	3	9	Leaning on houses/sidewal	No
41	D27	1	1	1	3	18m	4	2	3	9	Leaning on street/house	No
42	D30	2	1	1	4	10m	3	2	3	8	Leaning	Yes
43	D49	1	1	2	4	16m	4	3	3	10	Lean on street/house	No
44	D50	1	1	2	4	18m	4	3	3	10	Lean on street/house	No

Less than 6	1
Between 6 and 9	29
Between 9 and 12	9
Equal to 12	0

Appendix L: Detailed Tree Risk Assessment Map ordered A-C



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Appendix M: Tree Lean Assessment data

#	Tree ID	Excessive Lean of Tree
1	A5	No
2	A21	No
3	A35	No
4	A43	No
5	A46	No
6	A50	No
7	A72	Yes, but fixable
8	A73	No
9	A90	No
10	A131	Yes
11	B1	No
12	B27	No
13	B49	No
14	B51	No
15	B86	Yes
16	B91	No
17	B114	No
18	B124	Yes
19	B126	Yes
20	B137	No
21	B138	Yes
22	B190	No
23	B202	No
24	B214	No
25	C3	No
26	C15	No
27	C16	No
28	C23	No
29	C32	No
30	C48	No
31	C52	No
32	C76	No
33	C80	No
34	C84	No
35	C87	No
36	C88	No
37	C99	Yes
38	C103	No
39	C120	Yes
40	D24	No
41	D27	No
42	D30	Yes
43	D49	No
44	D50	No

Less than 6	1
Between 6 and 9	29
Between 9 and 12	9
Equal to 12	0

Appendix N: Transcribed Interview #1 with a Local Resident.

Interview Number 1:

H: What are your thoughts about the canal?
T: I think nothing
H: How long have you lived in the neighborhood?
T: I've lived here 72 years from birth. My father lived here 75 years before me, in the same house.
H: Did anyone from your family live here before your father?
T: No, my father was first.
H: What is your job?
T: Me and my father made noodles, but stopped 10 years ago.
H: Why did you stop making noodles?
T: For many reasons.
H: How much has the canal changed since you were little?
T: Not much has changed since I was young.
H: Do you remember the canal ever being full of water?
T: No, it was full 100 years ago when they used the canal for transportation.
H: Who planted the trees along the canal?
T: Kyoto city planted most of the plants along the canal
H: How do you feel about the trees along the canal?
T: I like them
H: Are there any trees that you particularly like?
T: There is no special tree, but i like to walk by them now
H: Do you like how the trees look or does it look overgrown?
T: I like that the trees feel natural even if they are planted
H: Do you prefer the look of this area over the area from Gojo to Nijo?
T: I don't think there is much difference
H: Do you think that the trees give you privacy?
T: I'm not really conscious about it
H: Do you think the trees are risky?
T: They are not risky
H: Have any trees posed a risk during a storm?
T: Trees have been knocked down before by typhoons
H: Did the whole tree fall down or was it only a branch?
T: The whole tree fell down

H: Roughly how many trees do you remember falling?
T: Around 1 tree every 10 years
H: Did the trees ever damage someone's house?
T: No
H: I've seen people cleaning the leaves around the canal, do you do it too?
T: His wife cleans the leaf but he does not
H: Do you find it annoying to clean?
T: Willow tree leaves easily stick to the road and are annoying to clean
H: Did your father plant any of the trees along the canal?
T: Yes, my father planted a lot of trees
H: How would you feel if they cut them down?
T: I would be sad
H: Where are the trees that he planted, in front of your house?
T: Yes, in front of my house
H: How would you feel if they cut other trees around the canal?
T: I would feel sad. Plants are valuable.
H: How did you find out about the restoration?
T: I found out in the newspaper
H: And how long ago was that?
T: I found out 6 months ago
H: How do you feel about the restoration?
T: It is a good job. It is nice to have a clean river isn't it?
H: What about the trees that need to be cut for restoration?
T: If you need to cut trees it can't be helped
H: Are people moving away from the neighborhood?
T: Yes
H: Why do you think people are moving away?
T: In the past there were too many people in a small place
H: Did any of the empty houses become hotels or guesthouses?
T: I know of a house that is now a hotel
T: Young men go to suburb and old men live here now
H: Do you think there are more tourists in the area?
T: There were more tourists before but then there was the COVID Pandemic. But it has been increasing.
H: How do the tourists impact you?
T: I think they are good for the local economy. There is also tourism pollution.
H: Do you mind explaining what you mean by that?

T: There are times when there are too many tourists and it is inconvenient for the residents
T: Tourism pollution is not limited to kyoto but also the whole world
H: What would you like to see from the restoration?
T: I want the canal to be clean. The canal is beautiful but it is packed. Fallen leaves are beautiful but they become trash later.
H: Are there any cracks along the walls and floor of your house?
T: There are a few
H: Do you eat any of the fruits from the trees?
T: I don't

Appendix O: Transcribed interview #2 with a Local Resident, Who did not Want to Share his Name

Interview Number 2:

J: What is your name?
R: Didn't want to share his name
J: How long have you lived in this neighborhood?
R: 40 years
J: How was it like living here in the past compared to now?
R: Yes, these days, compared to the past. The manners are bad, and there are many people living here. It was quieter here than in the past, but the environment has become worse since various people started living here.
J: Did you have family that lived here before you?
R: Grandmother
J: Do you currently work in this neighborhood?
R: No, but I used to
J: Where did you work?
R: Worked at lumber area right next to house
J: Do you use the Takase River canal for anything?
R: Now I use it for local children's events.
J: Do you or your family have any connections with any of the plants/trees along the canal?
R: Planted cherry blossom with family
J: How do you feel about the current looks of the vegetation?
R: Vegetation is too bushy.
J: Is there anything that you would like to change about it?
R: He wants the trees cut to make change in the neighborhood
J: Is there an instance where the tree made you feel at risk in the past?

R: Yes when storms happen
J: Have any trees ever fallen and damaged something?
R: Branches had fallen in front of his house
J: Do you clean the leaves/fruit litter along the canal?
R: Yes
J: How do you feel about the leaves/fruit litter along the sidewalk of the canal?
R: Doesn't like the trash and leaves in the river because it slows the flow
J: Do you enjoy cleaning the leaves/ doing chores around the canal?
R:No because cars move the leaves all over and there are too many leaves
J: Do you enjoy taking care of the plants along the canal?
R: I take care of the plants across the street and across the lot
J: How would you feel if plants/trees were removed along the canal?
R: Wants some of them removed because there is currently too many
J: How did you find out about the current restoration plan?
R: Kyoto city meeting
J: What is your feeling about this restoration project?
R: I want the area to be to be cleaner and wants change
J: What is your feeling toward the restoration that was done between Nijo and Gojo Street?
R: I don't go up that far
J: What is your opinion of tourists in this area?
R: The tourists have bad manners
J:What is your feeling towards the number of hotels and guesthouses in this area?
R: It is hard to find real Japanese people with manners now

Appendix P: Transcribed Interview #3 with a Local Shop Owner and Long-Term Resident

Interview #3:

D: What is your name?
Y: Yamashita Masahiro
D: How old are you?
Y: 76 years old
D: How long have you lived in this neighborhood?
Y: 70 years
D: How was it like living here in the past compared to now?
Y: It used to be good

D: What are some changes, if any, that you noticed?
Y: Minshuku, hotels, apartments, etc
D: Did you have family that lived here before you?
Y: I have been living here since 1949. My parents were here before me.
D: Did they live in the same or a different house?
Y: Same house
D: Do you currently work in this neighborhood?
Y: Yes
D: Where do you work?
Y: Same place
D: How long have you been working there?
Y: Since 70 years ago
D: Do you use the Takase River canal for anything?
Y: No, I don't use it for anything in particular
D: Do you or your family have any connections with any of the plants/trees along the canal?
Y: No
D: Do you have any favorite trees?
Y: Cherry tree
D: How do you feel about the current looks of the vegetation?
Y: It's beautiful
D: Is there anything that you would like to change about it?
Y: There is none
D: Do the trees make you feel safe?
Y: I think
D: Is there an instance where the tree made you feel at risk in the past?
Y: A big tree fell during a typhoon
D: Have any trees ever fallen and damaged something?
Y: I don't think so
D: Do you clean the leaves/fruit litter along the canal?
Y: No
D: How do you feel about the leaves/fruit litter along the sidewalk of the canal?
Y: It is dirty
D: Do you enjoy cleaning the leaves/ doing chores around the canal?
Y: It's Fun
D: Do you grow any plants along the canal?
Y: We do not grow plants.

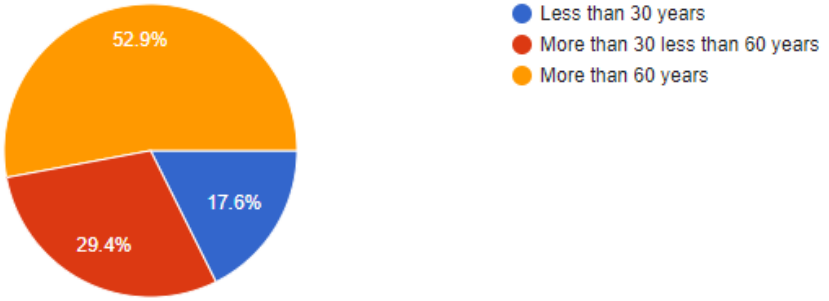
D: How did you find out about the current restoration plan?
Y: Information comes in from all over the place.
D: What is your feeling about this restoration project?
Y: It is nice to be new and clean.
D: What is your feeling toward the restoration done between Nijo and Gojo Street?
Y: The river has become clean, and the scenery has become beautiful
D: How do you think the plants/trees affect your house/business?
Y: I don't think it will affect me.
D: Do you feel that this restoration will attract more tourists?
What is your opinion of tourists in this area?
What is your feeling towards the number of hotels and guesthouses in this area?
Are there more or fewer people coming to visit this area in recent years, and what do they come here for?
Are residents moving away from the area? Have any businesses closed?
Y: I don't know the purpose, but it's a matter of increasing the number of tourist. The number of elderly people has decreased considerably, but the number of new stores is increasing
D: What would you like to see done to the canal?
Y: Takase river is fine as it is
D: What are the effects COVID-19 has on this community? For example, the number of tourists?
Y: The impact of Covid still continues. Tourists are slowly increasing
D: Why are you not happy with the current restoration plan?
Y: I have no complaints
D: Are you aware of the reason(s) why the plan is in place?
Y: The reason is probably the activation of the area
D: Do you or your family have any personal connections to the trees/vegetation along the canal?
Y: No
D: Do you feel like the trees pose any risk to your house or business?
Y: No
D: What are your main concerns with the restoration project?
Y: No
D: Would you, instead, the trees be left the way it is?
Y: It is okay to leave trees that can be left.
D: After the restoration is complete, if property and land prices in the area increase, would this affect you in any way?
Y: Is Nintendo behind this project?

Appendix Q: Survey Results

How old are you?

Copy

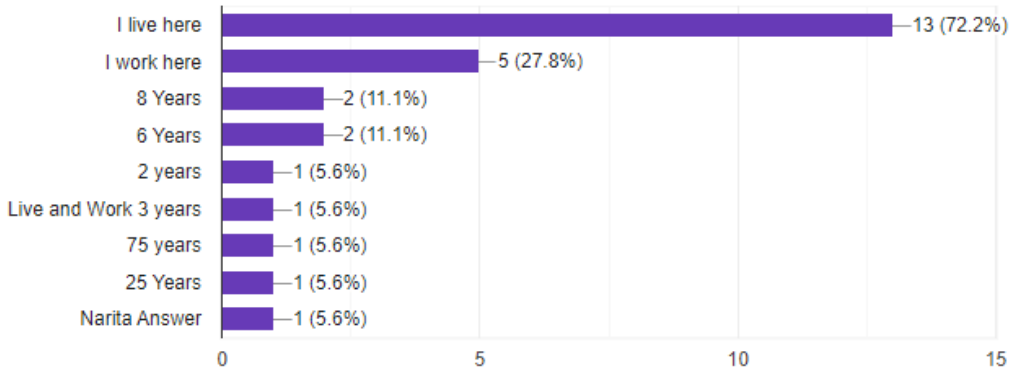
17 responses



Do you live or work here, and for how long?

Copy

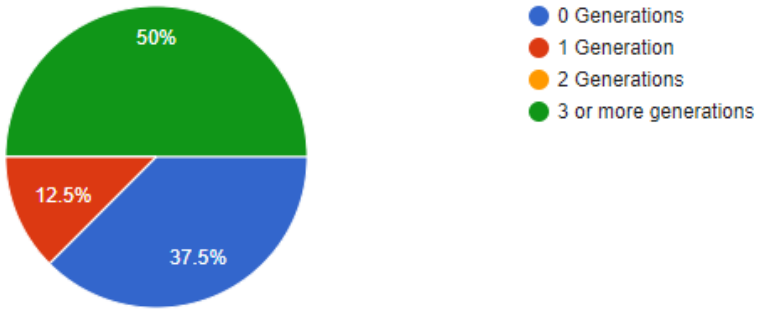
18 responses



How many generations before has your family lived in this neighborhood?

Copy

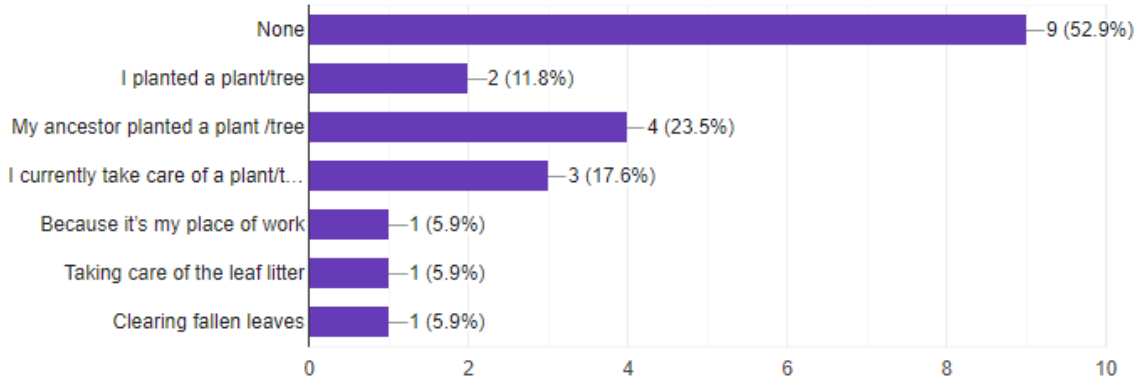
16 responses



Do you have any of the following **connections** with any of the plants/trees along the river?

Copy

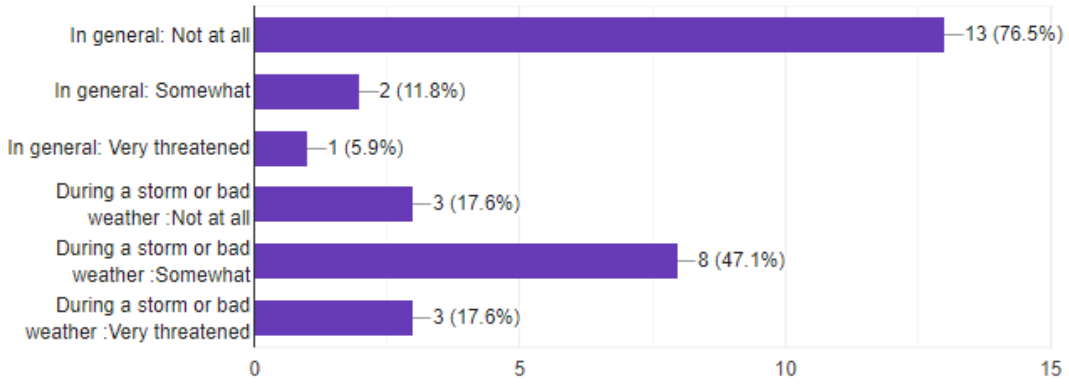
17 responses



In your experience, have you ever felt at risk or threatened by the trees?

Copy

17 responses



How did you become aware of the canal restoration project from Shichijo to Gojo street?

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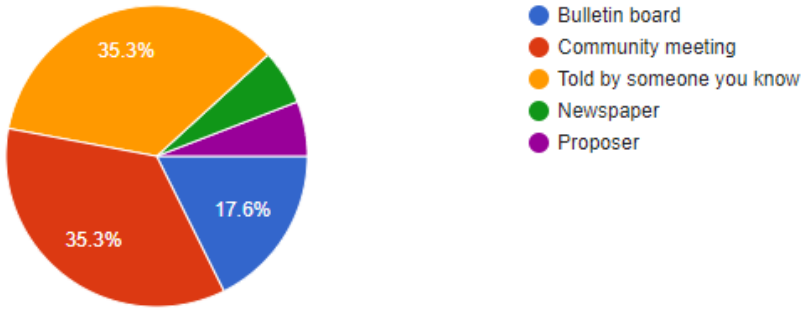
17 responses



How do you feel about the look of the restoration from Nijo to Gojo Street?

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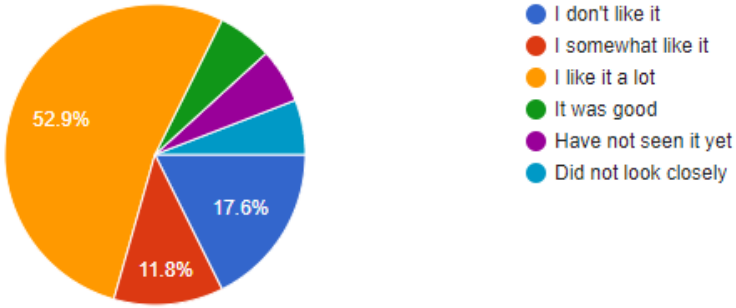
17 responses



How would you feel if plants/trees were removed along the canal? Please explain why

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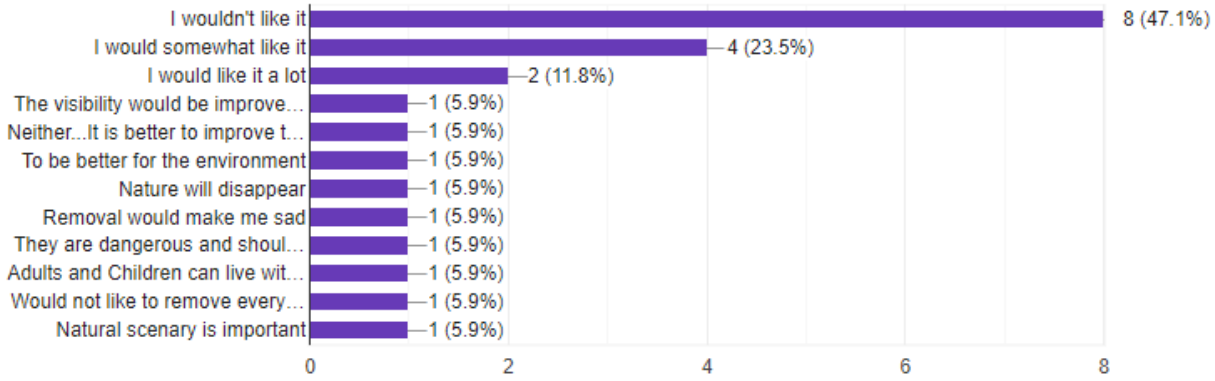
17 responses



How do you think the plants/trees affect your house/business? Please explain why.

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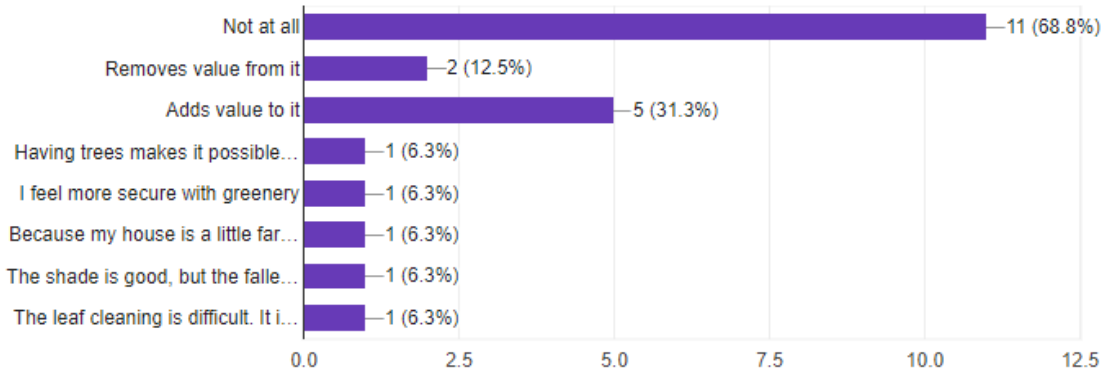
16 responses



What would you like to see done to the canal?

16 responses

If the canal were to be cleaner and free of garbage

Make it beautiful like Kyoto

Leave it as it is

If the flow of water increases

I want the canal to be clean. The canal is beautiful but it is packed. Fallen leaves are beautiful but they become trash later.

I hope it will be full of various kinds of trees and flowers

(for Gojo to Shichijo) It would be nice if the current atmosphere was preserved without being too clean

(Extra Information from Narita)... A few years ago, a typhoon uprooted several trees along the river. Because of this, maintenance is necessary. I also feel that there is also a feeling of loneliness that the landscape has changed

I want it to exist as a river, not as a park

I want more cherry trees as they bloom beautifully

A river with clean water

It would be nice if it became a familiar place of relaxation

Natural is better. I think the vitality of plants is amazing. Some plants continue to grow even after being cut.

A safe river with plenty of water and moderate greenery... The takase river is a canal and was used for transporting goods, so in ancient times, It was said that only willow trees were green. Please check old photos. therefore, People who have been here for a long time have the impression that large trees are neglected trees. I don't like the dense state as it is now