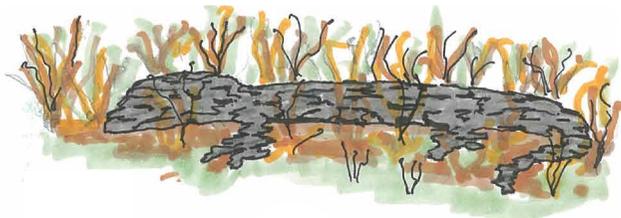
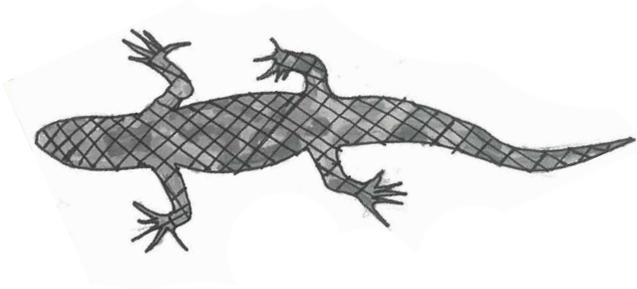


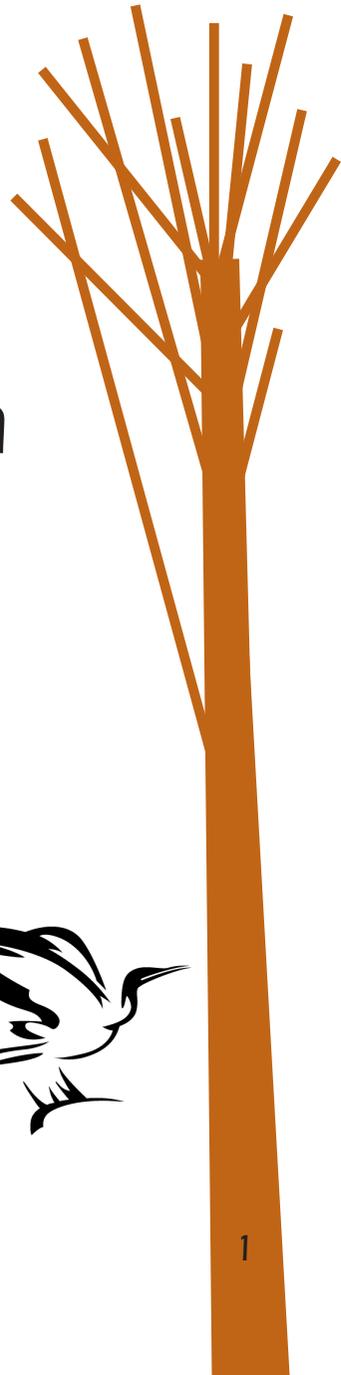
Starting The Ecology Conversation

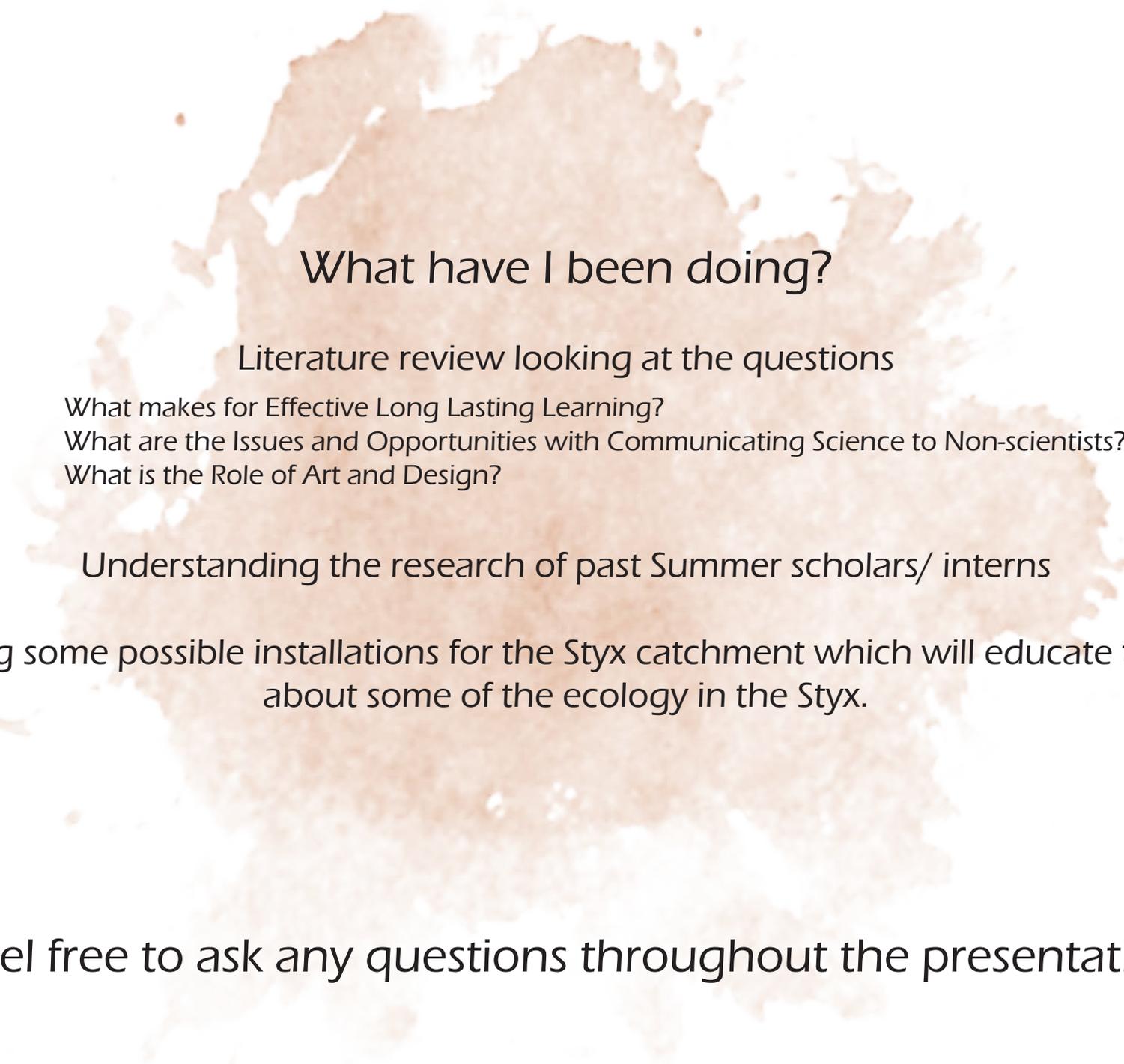
Art and Design Proposals for the Styx Catchment

2017 - 2018 Summer
Sophie Harrison



the styx-pūrākāunui
Living Laboratory Trust





What have I been doing?

Literature review looking at the questions

What makes for Effective Long Lasting Learning?

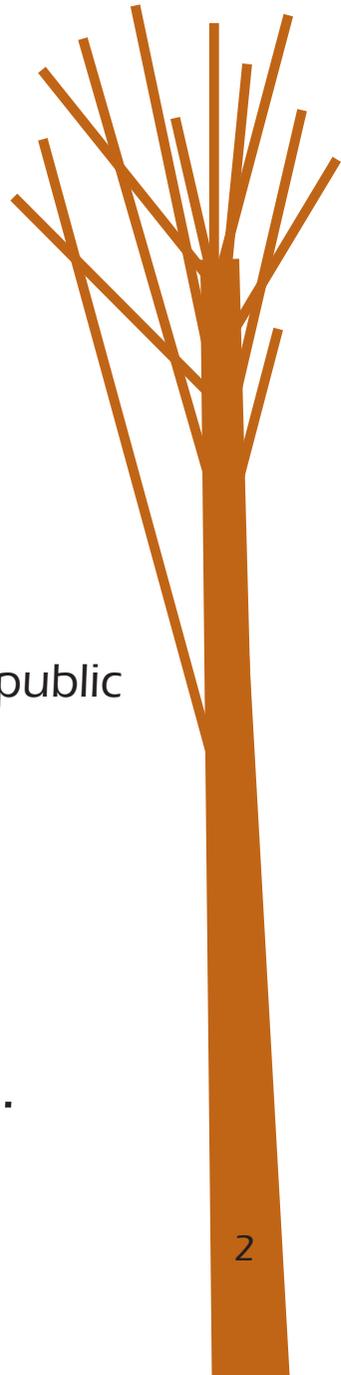
What are the Issues and Opportunities with Communicating Science to Non-scientists?

What is the Role of Art and Design?

Understanding the research of past Summer scholars/ interns

Designing some possible installations for the Styx catchment which will educate the public about some of the ecology in the Styx.

Feel free to ask any questions throughout the presentation.



What makes for a meaningful learning experience?



- Engagement of a variety of senses (Visual, Audio, Kinesthetic, emotional). Which then provokes strong emotional responses, as well as engaging with a wide audience due to the variety of learning preferences that people have.

- Art and design are effective tools for creating impactful experiences because they engage people through a variety of senses, while also encouraging people to look at things from a new angle. Art and design can also present complex ideas in a relatable way, so that they are easily digestible.



Christine Mclure's 2010 lizard survey work.



Oligosoma nigriplantare polychroma (Common skink / mokomoko)

<http://01271bfede0954168758-da1041207dde8e2d0a75af6fbedebdf.r83.cf1.rackcdn.com/20100506044342.jpg>



Oligosoma maccanni (McCann's skink / mokomoko)

https://farm5.static.flickr.com/4725/38769143214_411f1b2461_b.jpg

The preferred habitat of the Common skink, and McCann's skink is grassed/ shrubby open areas, which provide some shelter and cover from predators, while also allowing them to bask in the sun.

The Survey

Using pitfall traps, and artificial covering objects at the Janet Stewart and the Styx Mill Conservation Reserves, a survey was conducted. This was done to establish what reptile species were present and the preferred habitat type of species, as well as the health and age structure of populations found. There are two species of skink present in the reserves these being *Oligosoma nigriplantare polychroma* (Common skink / mokomoko) and *Oligosoma maccanni* (McCann's skink / mokomoko).



<https://i.pinimg.com/736x/47/4a/22/474a22490dd2a0ee9c-cd660a006dda7f--riding-lawn-mowers-workout-ideas.jpg>

Mowing contractors cut grass in habitat meaning that the grass is too short for the Skinks.



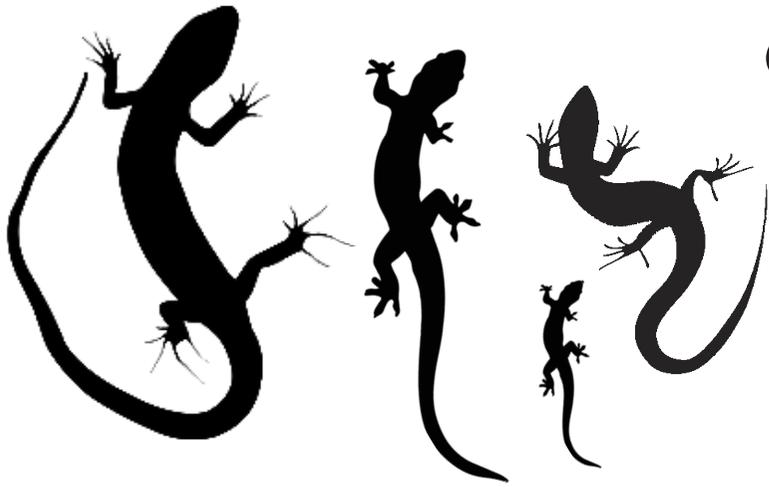
<https://firewisedefensiblespace.files.wordpress.com/2011/05/grass-fire-450.jpg>

Due to a lack of public awareness the public raise concerns about the grass length due to the perceived fire risk. As well as complaining about the unkempt scruffy look the long grass creates.



Gabion Skinks

This installation consists of a series of large scale 3D skink shaped gabion stone baskets which are up to 6 meters long four of the gabion skinks could be made.

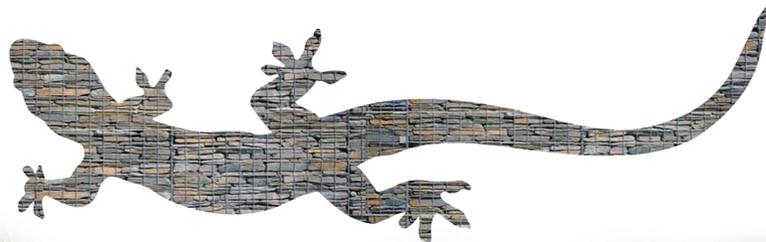


Section across Gabion Skink N.T.S

The main body of the Gabion Skink will be dug into the ground to provide a cool, damp, sheltered place for the Skinks and other invertebrates to take shelter during hot and dry periods.



Elevation N.T.S



Plan view N.T.S

Benefits of design

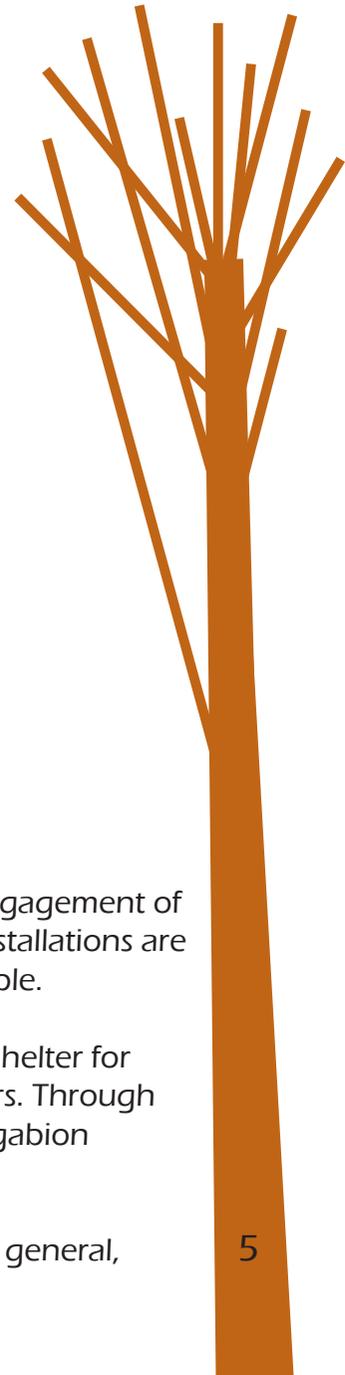
- The use of visual, kinesthetic, and emotional engagement of public, meaning that the information that the installations are trying to communicate is accessible to most people.

Ecological function - The gabion skinks provide shelter for actual skinks, as well as protection from predators. Through the small holes and spaces the rocks within the gabion create.

Education - Around habitat awareness, Skinks in general, what they look like, and cultural value.



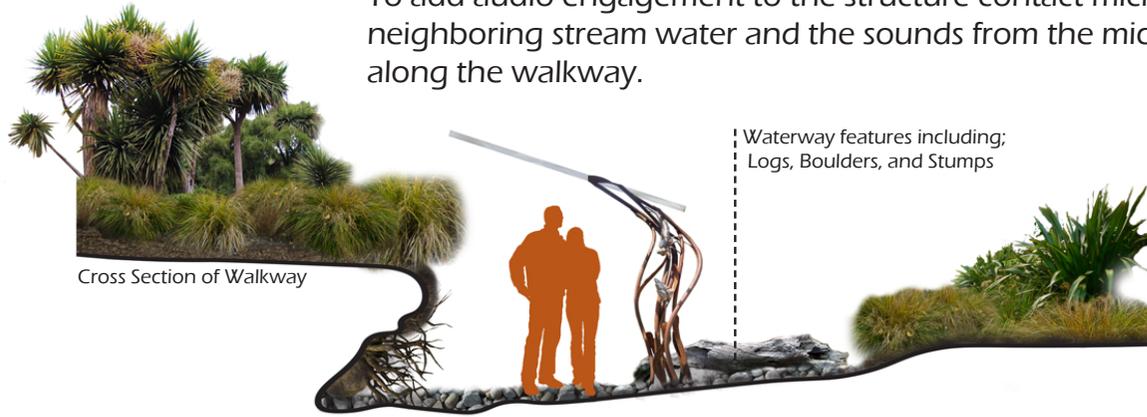
Illustration of Gabion Skink on site N.T.S



The River Walkway

Under a section of the glass/perspex it will be hot like it is for invertebrates, and freshwater fauna without shade/ shelter within the waterways. As the walkway progresses the glass/ perspex will be electronically printed with sections of shading in an effort to imitate the varying shade density depending on the forest density and its period of establishment. This could also be achieved through either, locating the structure next to existing vegetation, using reclaimed totara found on site to provided shade, or creating some form of sculptural vegetation out of corten steel.

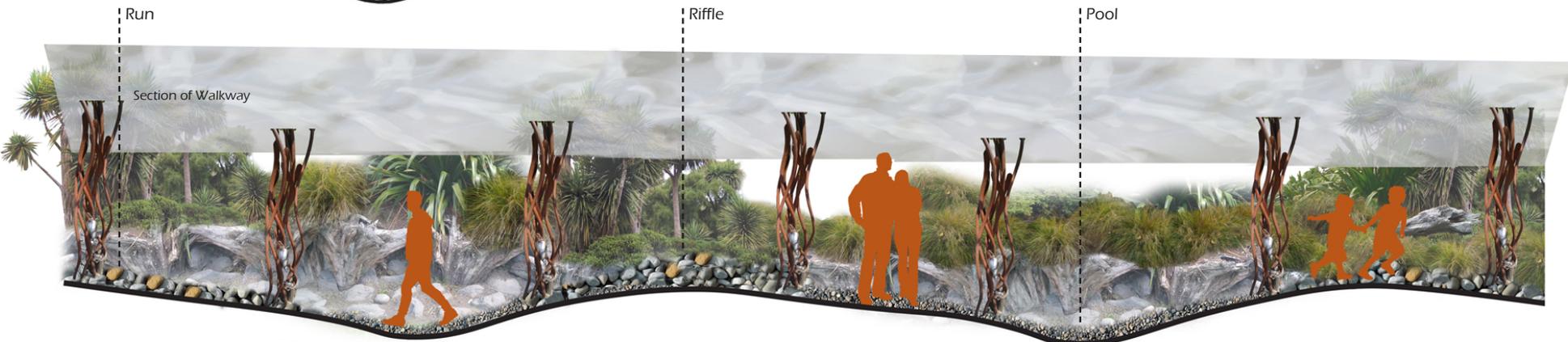
To add audio engagement to the structure contact microphones will be attached to rocks within the neighboring stream water and the sounds from the microphones will be played through speakers along the walkway.



Ecology - The walkway installation aims to provide an understanding around the elements which make up a healthy waterway ecosystem. These include; why logs, tree roots, overhangs, and a variety of substrate sizes are important for providing shelter within waterways so that freshwater invertebrates and aquatic fauna have places to shelter, and spawn. Also educating around why native riparian planting is important along waterways.

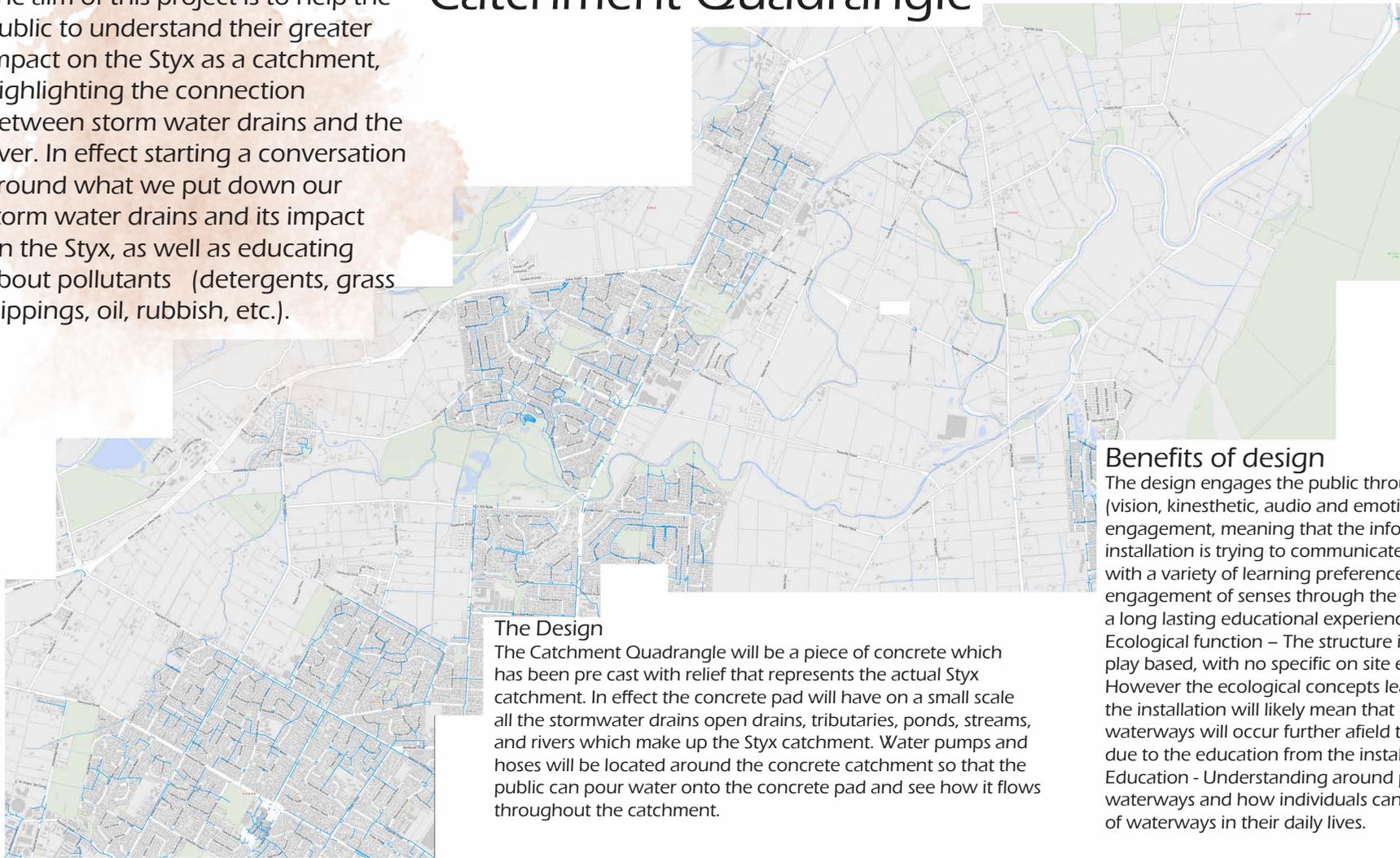


This initiative highlights the work of Guinevere Coleman in the summer of 2006/2007, Katie Collins in the summer of 2007/ 2008, and Amiee Robinson and Katie Collins in the summer of 2008/2009. All of the 2006 - 2009 projects looked at elements to do with healthy waterways, invertebrates in waterways and waterway restoration.



Catchment Quadrangle

The aim of this project is to help the public to understand their greater impact on the Styx as a catchment, highlighting the connection between storm water drains and the river. In effect starting a conversation around what we put down our storm water drains and its impact on the Styx, as well as educating about pollutants (detergents, grass clippings, oil, rubbish, etc.).



The Design

The Catchment Quadrangle will be a piece of concrete which has been pre cast with relief that represents the actual Styx catchment. In effect the concrete pad will have on a small scale all the stormwater drains open drains, tributaries, ponds, streams, and rivers which make up the Styx catchment. Water pumps and hoses will be located around the concrete catchment so that the public can pour water onto the concrete pad and see how it flows throughout the catchment.

Benefits of design

The design engages the public through a variety of senses (vision, kinesthetic, audio and emotion) heighten public engagement, meaning that the information that the installation is trying to communicate is accessible to people with a variety of learning preferences. The combined engagement of senses through the installation also creates a long lasting educational experience.

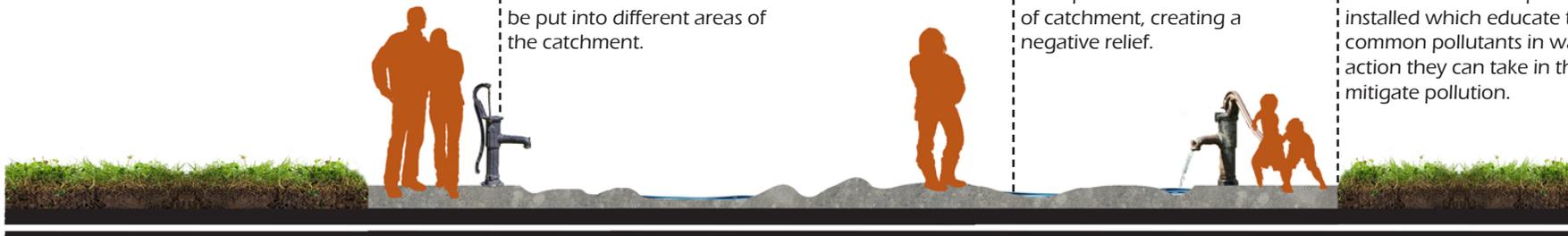
Ecological function – The structure is educational, and play based, with no specific on site ecological benefits. However the ecological concepts learn't about through the installation will likely mean that ecological benefits to waterways will occur further afield through public action due to the education from the installation.

Education - Understanding around personal impact on waterways and how individuals can mitigate the pollution of waterways in their daily lives.

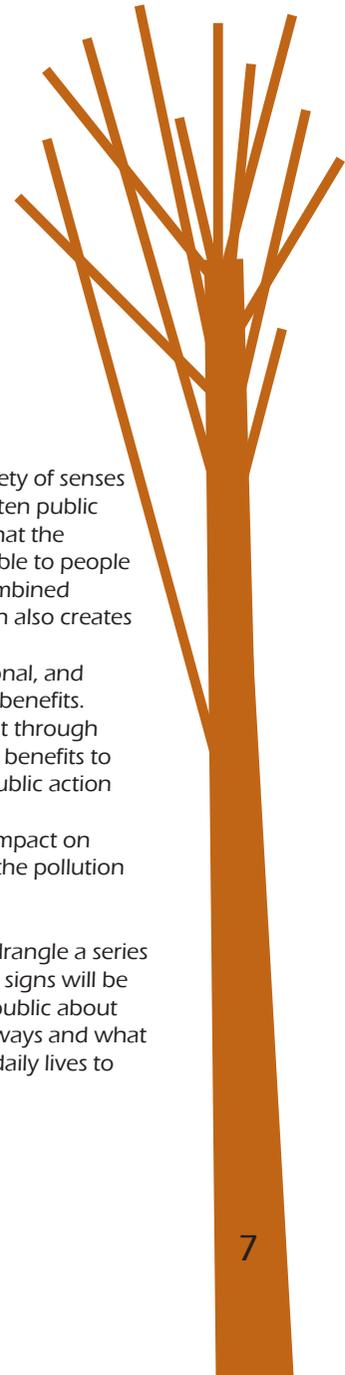
Water hand pump, could have a hose extension so water can be put into different areas of the catchment.

Concrete pad which has been pre cast into mould of catchment, creating a negative relief.

Around the Catchment Quadrangle a series of audio Uturn interpretation signs will be installed which educate the public about common pollutants in waterways and what action they can take in their daily lives to mitigate pollution.



Section of proposed interactive catchment quadrangle.



What I have gotten out of the Internship?

I have really enjoyed meeting with experts, and have gained a greater appreciation for the value of collaboration, especially in projects where I am not very knowledgeable. I will definitely try to collaborate with experts in my future projects.

This was my first experience of working in an office environment so it was really good to see what its like working in an office with all the noise, and people coming and going.

It was really interesting to learn about the whole process of trying to get a project under way, in terms of all the meetings you have to go to, and the process of getting costings, then engaging contractors.

I really enjoyed practicing the process of design in terms of (site visits, meetings, presentation drawings, and presentations) especially since the designs could possibly be built in the future.

Thank You For This Opportunity !