

Whaitua Te Whanganui-a-Tara Committee

Urban Field Trip Notes

Thursday 17 October 2019
Wellington city and suburbs

Attendees

Committee members:

Jonny Osborne, Anya Pollock, Gabriel Tupou, Pat van Berkel (Sessions 1-3), Zoe Ogilvie (Session 4)

Project Team:

Tim Sharp, Phill Barker, Anna Martin, Kat Banyard, Denise Young, Emily Osborne, Mark Heath, John Phillips, Penny Fairbrother, Sharyn Westlake (GWRC), Helen Bolton (WCC), David Burt (HCC), Angela Penfold (WWL)

Additional attendees:

Catherine Knight (KHM Consulting), Stu Farrant (Morphum Environmental), Ben Fountain (Wellington Water), Evan Harrison, Claire Conwell (GWRC)

Field Trip notes

Please see the [field trip information pack](#) for the agenda and handouts provided on the day.

Session 1: CentrePort

William Woods (Strategic Planning Manager), Anthony Delaney (GM Infrastructure and Environment), Thomas Marchant (Environmental Manager) – [see presentation](#)

Key facts:

- The Port has been in operation for 150 years.
- The value of cargo through the Port is \$20 billion per annum, which is projected to contribute \$3 billion to NZ's Gross Domestic Product (GDP) in 2020.
- One of the main cargoes is fuel (1 million tonnes per year), which provides the fuel supply to the lower North Island, the Cook Strait ferry companies and aviation fuel for Wellington airport. This is important as this volume of fuel would not currently be able to be provided via fuel tankers (roads).
- There has been an increase in both log exports and containers.
- The use of the port by large cruise ships is also increasing with 123 visits booked for 2019/20.

- The Port suffered major damage in the 2016 Kaikoura earthquake, including liquefaction and up to a 2-metre drop around the wharf (average drop of 450mm across the Port). Most of the stormwater pipes within the port were damaged.
- A regeneration plan is being developed in response to earthquake damage, which incorporates the [17 sustainable development goals](#).
- The management and treatment of contaminants in stormwater, especially with the increase in logs stored and shipped through the Port is a key environmental risk. The Port has been issued a 10-year consent to establish a baseline in water quality through monitoring. It is looking at good practice both nationally (Gisborne) and internationally to manage stormwater, with an emphasis on resilience (e.g. avoiding underground pipes) and improving water quality (e.g. on site treatment systems).

Q&A:

- Increase in cruise ship numbers creates a number of problems for the Port, with passengers having to disembark in an active port. It would be preferable for some cruise ships to berth where the Blue Bridge currently berths (opposite the railway station) and long term for the Blue Bridge to move to where the Interislander currently berths. The channel deepening dredging consent application has been put on hold as a result of the earthquake.
- How is the Port dealing with impacts of sea level rise? Sea level rise will be addressed as part of the regeneration plan as many of the wharves and sea walls require rebuilding.
- What are the new approaches the Port is considering in relation to stormwater management?
 - All stormwater infrastructure to be located above ground
 - Use of rainwater gardens
 - Looking at a 10-year redevelopment of stormwater infrastructure for the Port (which is not connected to the WCC stormwater network).
- Other methods to reduce stormwater contamination includes washing and re-painting of containers being done in a confined area with discharge to trade-waste, but also looking at how to reduce other contaminants. Stu Farrant raised a question about whether Port vehicles could reduce the use of copper and zinc, through change in the brake pads and type of tyres used.

Session 2: Urban water walk

Kumutoto Stream mouth:

Stu Farrant (Morphum Environmental) and Evan Harrison (GW Environmental Science, freshwater ecology)

- Kumutoto Stream was one of the first streams to be reclaimed in Wellington with over 1km of the stream piped in the 1860s.
- 95% of the streams in Wellington City have piping.
- Stream piping has a direct impact on the type of native fish found. Only climbing species (e.g., kōaro and banded kōkopu) are now found in piped urban streams. Non-climbing species, such as giant kōkopu and shortjaw kōkopu are found only in catchments with direct sea access or in non-urban areas.
- There are challenges with retrofitting inner city water sensitive design (space, cost, etc.)
- The re-design of Queens Wharf incorporated the re-opening of the mouth of the Kumutoto Stream. It was noted by Committee members that signage about this would be helpful.

- Evan discussed the opportunities to restore fish passage in urban streams. Some work has been carried out in the Polhill Reserve.

Waitangi Park:

Stu Farrant (Morphum Environmental) and Ben Fountain (Wellington Water Chief Advisor, stormwater)

- Stu explained the history and technical elements of design, including the use of pumps, which activate at low tide, and the depth of the rain gardens.
- Challenges of addressing water quality at the bottom of large catchments, including cost of maintaining the current rain gardens, which need to be replanted with a wetland species that does not die back in winter in order to be more effective.
- Ben discussed the opportunity of major redevelopment to address existing issues, noting the challenges with small piecemeal development versus precinct scale planning. He discussed the opportunity of daylighting streams along Kent and Cambridge Terrace, rather than putting in larger stormwater pipes.



Waimapihi jump platform:

Claire Conwell (GW Environmental Science, marine ecology) and Ben Fountain (Wellington Water Chief Advisor, stormwater)

- Claire discussed the outcomes of the benthic monitoring (or sediments) in the inner harbour, including:
 - Inner harbour is a highly modified ecosystem, with the majority of the harbour armoured with seawalls and no natural coastal vegetation.

- Noted that the dataset is limited to only 3 surveys (5 years apart), so only 3 data points.
- Species present are those that tolerate poor ecological conditions including polychaetes (worms) and exotic invasive species (Asian clam). This species/community composition is consistent with the contaminant gradient, which shows concentrations of zinc in the sediments in the inner harbour and lower concentrations in the outer harbour. Inner harbour zinc concentration is reaching the upper threshold for affecting ecosystem health.
- Complex problems with wastewater in the inner city network with the jumping platform being closed a number of times in 2019 due to wastewater entering the stormwater network which discharges into the harbour.
- Protective baffles were installed to prevent some contaminants entering the water below the jump platform.
- Difficult to fix past mistakes and influence long-term outcomes for coastal water quality for the inner harbour.

Session 3: Owhiro Stream

Key facts:

- The Owhiro Stream is the only urban stream flowing to the Wellington south coast that retains an open channel for most of its course. The other south coast streams (e.g., Island Bay, Houghton Bay) are fully or near-fully culverted or piped.
- The source of the Owhiro Stream is in Brooklyn and it flows in a southerly direction along Ohiro/Happy Valley Road to its mouth in Owhiro Bay, on the south coast. Owhiro Bay forms part of the Taputeranga Marine Reserve.
- The Owhiro Stream catchment covers approximately 953 hectares bounded by Hawkins Hill to the west, Polhill Reserve and Todman Street to the north, and The Ridgeway, Frobisher and Severn Streets to the east.
- The northern and eastern parts of the catchment are dominated by urban (mostly residential but with some commercial) properties. Stormwater generated from these areas is discharged into the stream, with stormwater treatment currently absent or limited to grit traps. Typically, water quality of urban streams is under pressure from stormwater borne contaminants such as metals and hydrocarbons from buildings and vehicles, sediment from earthworks, and a variety of smaller, miscellaneous discharges to the stormwater network from individual properties (such as car washing on driveways).
- Urban streams can also contain discarded or wind-driven rubbish and plastics. Cross-contamination between the sewerage and stormwater reticulation networks can lead to faecal contamination of stormwater, and thus to urban streams. The natural flow regime of urban streams is affected by impervious surfaces such as roads and roofs, which cause rainwater to runoff more quickly, and limit water infiltration through soil into groundwater. Typically, an urban stream responds more quickly to rainfall, with larger peak flows, and has reduced base flows during dry periods.

WCC management of landfills:

Emily Taylor-Hall (Waste Operations Manager) and Robert Hon (Waste Operations Engineer)

- Three active landfill operations are present in the Owhiro Stream catchment. Wellington City Council operates the Southern landfill. It accepts general and green waste and includes a recycling centre.

- WCC ensures that the Southern Landfill's tipping operations minimise wind-blown litter. They have litter fences at the tipping area to capture fugitive waste and regular clean-ups of the site to minimise any litter entering the stream.
- The other two landfills are the T&T landfill and the C&D landfill, which are privately owned and operated.
- The Southern Landfill is currently operating in Stage 3 of its multi-stage development, with the proposed extension (Stage 4) set to provide an additional 2.5 million m³ of landfill. There are only four years left until Stage 3 of the Southern Landfill is full. While the Council's preference is to extend the landfill to Stage 4, the Council ran a public consultation process in August this year to check out the alternatives to extending the landfill. The Council is currently assessing the alternatives suggested by the community, and further community consultation will discuss the outcome of the review.
- For more info: <https://www.letstalk.wellington.govt.nz/southern-landfill-future>



T&T Landfill:

Claire Baldwin (GWRC Resource Consent Officer)

- In 2016 and early 2017 GWRC was told about discolouration and foaming in the Owhiro Stream. An investigation determined that this was the result of discharges from T&T Landfill, and that they were causing significant adverse effects on water quality and ecology in the stream as well as the tributary that runs through the landfill.
- An ecological assessment recommended that a wetland at the toe of the landfill and clean water diversions around the landfill be constructed with urgency.
- Stormwater discharges and landfills require resource consents, which typically require some form of water quality and/or ecological monitoring.
- Investigations have shown that the discharge from the T&T landfill resulted in a major degradation of macroinvertebrate communities in the Kowhai Park Tributary (average MCI score of 74) and further degradation in the Owhiro Stream itself (average MCI score of 70). As mentioned previously, remediation work is underway, and it would be interesting to assess whether it is successful in reducing the effects of the landfill on aquatic life.

- For further information on the Owhiro catchment, refer to the following links.
General info: <http://www.gw.govt.nz/owhiro-stream-catchment/>
Owhiro Stream monitoring map: <https://www.gw.govt.nz/assets/Resource-Consents/T--T/Owhiro-Catchment-Map.pdf>
Report on contaminants in the catchment:
<https://www.gw.govt.nz/assets/Harbours/Owhiro-Stream-SummaryFinal1-November-2017.pdf>
Report on Wellington landfills: <http://www.gw.govt.nz/assets/council-publications/Landfills-in-the-Wellington-Region.pdf>

Friends of Owhiro Stream:

Martin Payne (Coordinator)

- To date, Friends of Owhiro Stream have focused on planting the stream, but they acknowledge that planting alone will not address the water quality issue.
- The group is concerned that the three resource consents for the landfills do not adequately address the cumulative effects, especially the impact on the receiving environment, which is the Taputeranga Marine Reserve.
- The group also raised concern about the safety of children swimming in the stream, which is adjacent to the school. Water quality data provided by GWRC states that it is not safe to swim in the stream. The re-planting of the stream and improved access by mowing tracks and removing pest plants has made the area more attractive. Owhiro Bay school now use the area as an outdoor classroom.

Session 4: Zealandia

Sanctuary to Sea:

Pascale Michel and Danielle Shanahan – [see presentation](#)

- The Kaiwharawhara catchment is unique in Wellington City:
 - It is the largest stream system and only catchment with a natural estuary in the WCC boundary; and
 - The Zealandia sanctuary is at the headwaters providing a source of dispersal for native species.
- The project vision states, “The mauri of the Kaiwharawhara is healed. In 100 years, the catchment is a healthy freshwater and forested ecosystem in an urban setting, which sustains an abundant native biodiversity and enhances the opportunities for Wellingtonians to have a nature-rich future”.
- It is a collaborative initiative under the leadership of Zealandia.
- For more info: <https://www.visitzealandia.com/livingwithnature>

Te Tini o Hākuturi – Kaitiaki monitoring in the Kaiwharawhara catchment:

Aaria Dobson-Waitere (Kaitiaki Ranger)

- This project is about supporting mana whenua to reconnect to the Kaiwharawhara catchment and to practice Mātauranga Māori. Working with Zealandia, NIWA and DoC.
- Currently interviewing kuia and kaumātua to record their stories of the awa.

DoC business partnerships project:

Geoff Ensor (DoC Commercial Partnerships Lead) – [see handout](#)

- DoC realises that everyone, including business has an opportunity or part to play in restoration. While DoC has, over years, provided the evidence of species loss, to date this has failed to present the opportunity for widescale business involvement in restoration.
- In partnership with Sanctuary to Sea they are seeking to link business investment to tangible ecosystem restoration outcomes. Working in the Catchment is linked to a goal of every New Zealand business restoring nature by 2050. The S2S project is a chance to show how, at a catchment level, the goal can be realised.

Stu Farrant (Morphum Environmental)

- Morphum's work involved identifying what businesses are in the catchment and doing a stocktake of the restoration work already being undertaken.
- Identified the gaps in terms of restoration.
- The next step is to partner more broadly using a principle of shared resources.

NZ fish passage guidelines:

Katrina Smith (GWRC Biodiversity, fish passage) – [see presentation](#)

- Discussed New Zealand Fish Passage Guidelines and encouraged Waitua members to download the New Zealand Fish Passage Assessment Tool, which is available on the NIWA website: www.niwa.co.nz

Q&A:

- What are the constraints to removing fish barriers? There are some considerations before a barrier can be removed. Some barriers are there for flood protection and removing them would create flooding problems further downstream. It is likely that these barriers would have to remain, but fish passage may be able to be improved.
- Zealandia is currently working with 35 groups, how are they going to connect with other groups and address wider issues, such as swimmability? The focus of the project is currently on restoration of habitat. The use of tools such as citizen science will help connect the project with the wider community.
- Is there any work planned on how to reconnect with the Kaiwharawhara estuary? There is currently limited public access.
- Is there scope for a boardwalk to be built in the estuary? That is a difficult question. The estuary has a high population of birds and poor public access means no dogs. However, the project is currently talking to KiwiRail and CentrePort about the management of the estuary.
- It would be good to have some signage at vantage points, which points out the special values of the Kaiwharawhara Stream and estuary.
- What mechanisms, by the way of incentives, are Councils offering businesses to be involved in the project?