Westshore Scrape Lakes

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Location



History

- Pre 1931 the area between the coast and the surrounding foothills formed the huge Ahuriri Estuary.
- 1931 earthquake caused massive change to the original Ahuriri Estuary.
- Much of the land rose up to 2 metres and land use changed.
- Westshore Wildlife Reserve and Watchman Road Reserve remnants of the original Ahuriri Estuary.

- Both wetland areas are coastal lagoons and as such are non-tidal. Not connected to the adjoining Ahuriri Estuary.
- Purchased by the Crown in 1952.
- Westshore Wildlife Reserve designated as a Wildlife Refuge in the late June 1958 and managed by the (Napier Borough Council) Napier City Council.
- 50.2 hectares in size.

- Post 1931 earthquake Westshore Wildlife Reserve was used as a dump site for rubble, horse grazing site and a go-kart track.
- 1972 the Hawke's Bay Wildlife Trust was granted a lease for the land with the view to develop a local wildlife park.
- New roads, a residential dwelling, deer park, aviary system for kiwi and birds of prey and bird hides were all constructed.
- In 1983 The HBWT surrendered their lease and management reverted back to the NCC.

- 1985 the deer park was removed and more focus placed on establishing an education and conservation site.
- 1988 the first artificial ponds were constructed on part of where the deer park once existed. Excavated material was used for erosion control at Westshore Beach.
- These ponds later proved to be a failure.
- 1995 the failed ponds were in-filled with adjoining site material and the first scrape lakes created.

Scrape lake principle

- First developed by Sir Peter Scott (founder of the Wildfowl Trust in the United Kingdom).
- First scrape lake was developed at Slimbridge with others developed in places such as Arundel and Minsmere.
- Essentially a shallow excavation which holds water in the winter months (approximately 150mm to 200mm deep) but dries out in the summer months.
- Best suited to sites which adjoin coastal areas or estuaries.
- Design is highly attractive to migratory birds, wading birds and waterfowl.

The first major development

- 2003 extension of the Hawke's Bay Expressway between Hastings and Napier Airport.
- Alignment of the Expressway bisected the eastern side of the Westshore Wildlife Reserve.
- As part of the environmental mitigation measures an expansion to the small existing scrape lake was undertaken.
- Excavated fill was used for road construction purposes.

Construction of scrape lakes took place on two areas of the wildlife reserve, east and west of the new expressway.

- Following completion of all ground works both areas were left to self colonise with reed species.
- Due to its close proximity to the busy new expressway seed heads from the reed Juncus krausii were spread throughout the site to speed up the colonisation process.
- Both areas have proved to be highly attractive to a number of wading and waterfowl species.







Second major development

- In 2015 a proposal to upgrade a dangerous intersection on the expressway, plus create a major new entrance into and out off the Napier Airport was tabled.
- As part of the environmental mitigation measures to off-set disturbance and habitat loss on both lagoon areas a decision to fully complete the scrape lake development at the southern end of the Westshore Wildlife Reserve was approved.

Purpose of the Westshore scrape lake

- Provide a feeding, roosting, moulting and breeding site for wading birds and waterfowl.
- Increase Hawke's Bay diminished wetland portfolio (95% of HB wetlands lost already).
- Provide an additional ornithological site. To date 96 different species have been recorded on the Westshore Wildlife Reserve.
- Adjoining the Ahuriri Estuary the scrape lakes provide an ideal roost site for a wide variety of birds at high tide.
- Extremely attractive to migratory birds and smaller wading birds such as Dotterels as a summer feeding and breeding site.

Construction plan



Construction process

- Before excavation work commenced all remaining trees and vegetation was removed from the site.
- Whole site was surveyed to establish the winter water level mark then all remaining high ground was excavated to that height, except for the roost sites.
- Construction was delayed by several months due to extreme weather events causing a significant rise in the lagoon water level. Made it difficult for heavy machinery to operate.
- Finally completed in April 2018.

Landscaping

- The success of a scrape lake (especially as a bird roost and breeding site) calls for an open aspect to the area in order to provide a secure environment.
- Judicious planting of reed and small coastal vegetation species was undertaken in selected sites only, invariably where there was an interaction with reserve users, such as the adjoining public pathway and cycleway.
- Majority of site self-colonising, primarily with reed species and Glasswort (*Sarcocornia quingueflora*).

Monitoring

- A condition of the approved Resource Consent called for a monitoring plan to be produced.
- To gauge the success of the new scrape lake 4 quarterly surveys will be undertaken for a period of 2 years.
- Surveys include (among other things) bird counts on the new and old scrape lake, plus the existing lagoon, vegetation survival and regeneration, presence of plant or animal pest species.
- To date 2 surveys have been undertaken this year (May and August) and results have exceeded expectations. (Caspian Terns and Godwits).

Overview of completed project

















Education

Ahuriri Lagoon Wetlands

Since human settlement Hawke's Bay has lost 95% of all its wetlands. The two bodies of water adjoining the causeway are remnants of the original Ahuriri Estuary which once extended to the surrounding foothills before the 1931 earthquake.

The South Pond and the North Pond areas are classified as coastal lagoons as they are nontidal and not directly connected to the Ahuriri Estuary. They are extremely valuable wetland habitats as their water levels rise and fall between summer and winter, offering ideal feeding, roosting, moulting and breeding areas for a wide diversity of bird species.

To date 96 different bird species have been recorded here including rare species such as Royal Spoonbills, and several migratory species such as Kuaka (Godwit), which annually fly to Aotearoa to spend the spring and summer months here. In addition, rare plant species such as Maori Musk are also found in these wetlands.





As part of the construction project to create this gateway to Hawke's Bay from the airport, a large portion of the southern end of the Westshore Wildlife Reserve was redeveloped to off-set habitat loss and disturbance. This redevelopment work involved the creation of a unique new wetland environment known as a scrape lake.

A scrape lake is ideally suited to this location and is a shallow body of water during the winter months when the lagoon water level is high, but is exposed during the dry summer months to provide a habitat for the many migratory and wading bird species. Both areas are designated as a Wildlife Refuge and as such are protected in perpetuity.

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One problem identified

- Scrape lake borders a public walkway and cycleway. Some pathway users still choose to let their dogs run uncontrolled through the scrape lake areas causing disturbance to birdlife.
- Proposal under consideration to construct a fence between the pathway and the scrape lake and to install extensive signage warning people about this issue.

Conclusion

- Major construction projects don't always result in detrimental changes to environments or habitats.
- Cost of development was met by outside sources.
- Success only comes from careful planning and an understanding from all parties on what it is that you want to achieve.
- Scrape lakes are 'tricky' to get right so seek expertise.