

Te Ao Māori approach to remediation

Context: GHD study – Tiwai Smelter as a contaminated site

GHD Limited (GHD) were engaged to complete a Contaminated Sites work package at the NZAS Tiwai Point Aluminium Smelter. There are various reports associated with this work package, however the only one currently publicly available is the Detailed Site Investigation Report, which looks at soil, sediment and groundwater contaminant levels within the **smelter zone** (excluding the landfill). This report shows that soils and groundwater underlying the Tiwai Smelter site exceed background limits and multiple human health and environmental criteria for a variety of contaminants. This poster has been designed to promote discussion around re-defining the end land use and therefore remediation of Tiwai Point post Smelter closure, through a Te Ao Māori lens.

End land use and remediation – who decides?

Land use is the function or functions that humans apply to the land available to them. By categorising a piece of land into a land use type, it is then subjected to a set of human-defined parameters, such as *acceptable* environmental and planning conditions for that land use.

The five most common land use categories are: Recreational, Transport, Agricultural, Residential and Commercial (Industrial).

The end land use of the Tiwai Smelter site is currently unknown – yet to be formally determined. Using this rationale, GHD based the assessment of laboratory results against two primary land use options:

1. **industrial use** - continued or alternative; or
2. **recreational use.**

Different land use options have different measurement standards for contaminants. What may be acceptable for one land use, may not be for another. There is a high risk that remediation will involve minimal contaminant removal if future land use is not defined by Iwi aspirations (Te Ao Māori approach) and the medium- to long-term implications of coastal erosion, sea level rise and the movement of contaminants are ignored.

Iwi values and a Te Ao Māori approach to Tiwai

It can be argued that the remediation and future use options described by GHD do not align with Iwi values or indeed, a Te Ao Māori approach to land and water management.

*The following has been taken from **Wai Ngāi Tahu ki Murihiku (2019)**, which was written in relation to freshwater management in Murihiku. The principles and guidelines within this document may be useful in developing an Iwi response to the remediation of Tiwai Point.*

Māori perceive water as a holistic and sacred (taonga) entity within which it holds its own life force or 'Mauri'. The Māori worldview promotes that we as humans are 'one' with the environment (Earth mother Papatūānuku). As in the nature of Papatūānuku's health so too is the health of our people. The exercise of Kaitiaki relationships with taonga in the environment is vital to the continued expression of Māori culture itself.

Ngāi Tahu ki Murihiku strive for the highest possible standard of water quality that is characteristic of a particular place and waterway. This means we strive for

- drinking water quality in water we once drank from,
- contact recreation in water we once used for bathing or swimming,
- water quality capable of sustaining healthy mahinga kai in waters we used to source kai.

Water quality definitions, categories and standards need to be determined, measured and assessed with cultural values and indicators alongside scientific information. Such indicators and values centre on the ability of a waterbody to support life and the fitness of water for cultural uses.

Our bottom line is to avoid discharge of wastewater (*and contaminants*) to water, as such activities have adverse effects on cultural values, including, mauri, wairua, mahinga kai and wāhi tapu.

Te Ao Māori, the Māori worldview, promotes:

- Water is a taonga
- Water has an inherent value
- Water is a holistic resource
- Water has many stakeholders (both now and future generations)

The RMA 1991 confirms that future generations are also stakeholders. From a Māori perspective, the present generation has an obligation to pass on healthy water resources to **future** generations.

Kaitiakitanga

Guardianship and advocacy is fundamental to the relationship between Ngāi Tahu and the environment. It is the intergenerational responsibility and right of tangata whenua to take care of the environment and the resources upon which we depend.

The responsibility of Kaitiakitanga is twofold: first there is the ultimate aim of protecting Mauri and second there is the duty to pass the environment to the mokopuna of all future generations in the state that is as good as, or better than, the current state.

Mahinga Kai

Mahinga kai is one of the pillars of the Ngāi Tahu way of life and is central to Ngāi Tahu ki Murihiku relationships with places, waterways, species and resources, and to the cultural, spiritual, social and economic well-being of Ngāi Tahu.

Mahinga kai includes the transfer of traditional knowledge and culture or 'Matauranga'. The practice is complex and encompasses harvesting taonga (resources - e.g. food, fibres, muds, clays and soil, stonework), the ability to access the resource, the site where gathering occurs, the act of gathering and using the resource, and the health and wellbeing of the resource.

Mahinga kai was and remains one of the cornerstones of Ngāi Tahu existence and culture. Survival was dependent upon knowledge of mahinga kai and the ability to gather resources from the land, waterbodies and the sea.

Healthy waterbodies continue to be a direct source of mahinga kai, provide ecosystem support for mahinga kai species and support other significant mahinga kai environments such as forests, riparian habitats and coastal environs.

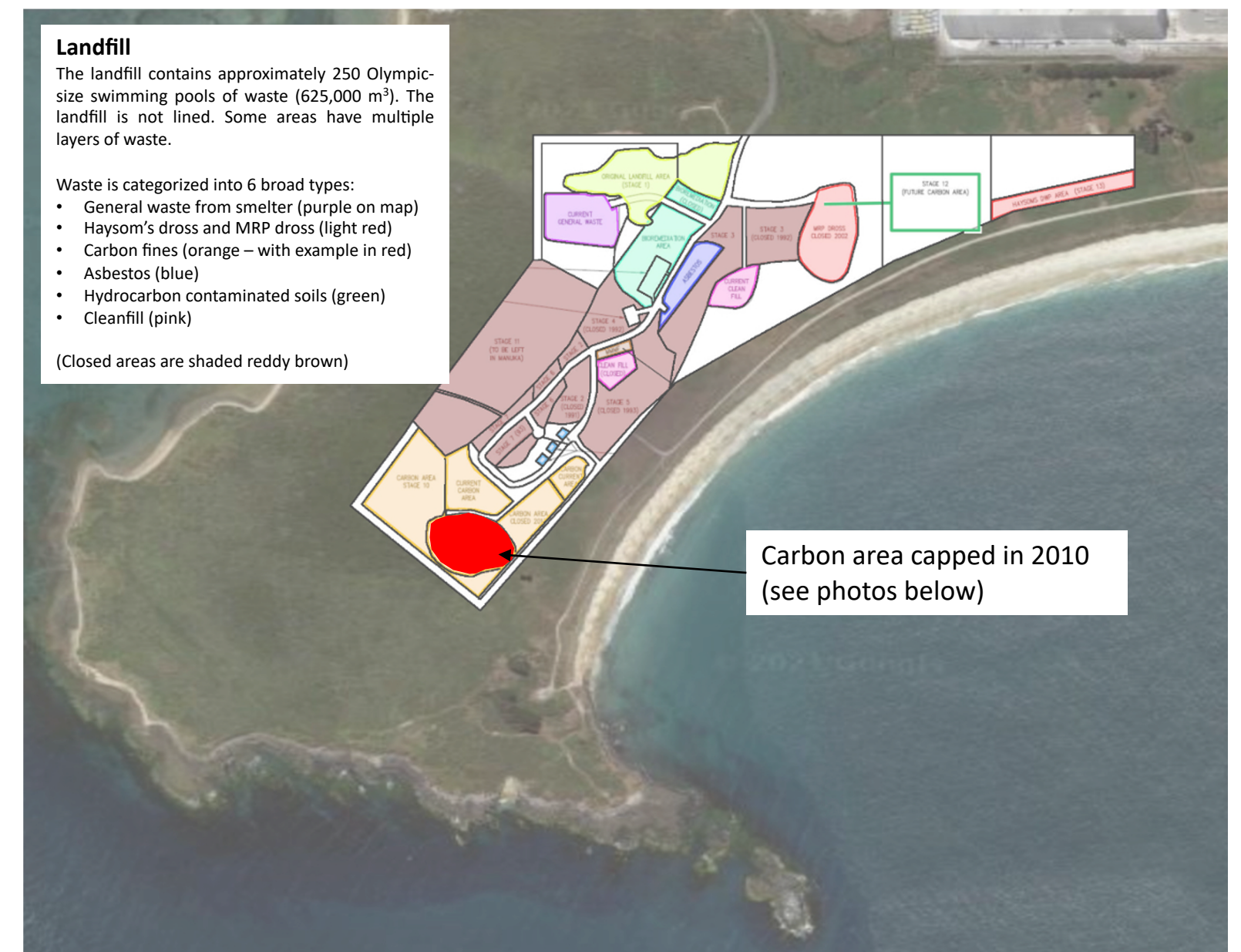
Taonga Species

It is an aspiration that Ngāi Tahu Whānui, current and future generations will have the ability to access, use and protect mahinga kai resources, and the history and traditions that are part of customary use of such resources, as guaranteed by the Treaty of Waitangi.

Current remediation – cover with plastic and plant

An example of current landfill remediation is given below. The images taken in 2010 show a large carbon pile (area highlighted on map) being covered in Linear Low Density Polyethylene (LLDPE) plastic, then pea gravel in preparation for planting.

- Is this *cover and plant* 'remediation' going to occur across Tiwai Point post the Smelter closure?
- Does this approach reflect the values of Ngāi Tahu ki Murihiku?
- How is this approach likely to impact future generations?



Landfill map taken from 2019 NZAS report to Environment Southland. The carbon pile in the pictures below is highlighted in red on the map.



Picture 1 - LLDPE membrane being placed on the Carbon Pile



Picture 2 - LLDPE membrane being covered with local pea gravel.

Photos from the 2010 NZAS environmental monitoring report submitted to Environment Southland. They show the carbon pile highlighted on the map being prepared for planting. From the surface the site will look 'remediated' as plantings establish. However, this is a short-term 'band aid' approach that does not reflect the values of Ngāi Tahu ki Murihiku.