Porirua Harbour Catchment Land Use Changes

Keith Calder, 21 October 2009
Time line

1800
- 1800
  - 1820: Ngati Ira occupy district
  - 1832: First European settlers
  - post 1820s: Ngati Toa occupy district
1840
- 1847: European settlement at Pauatahanui
1860
- 1850: Major farm development begins
1880
- 1880: Haywards Rd opened
- 1870: Goldmining, Mt Welcome
1900
- 1894: Oyster farming, Motu-Karaka
1920
- 1939: Coast Rd opened
1960
- 1960: Urban development begins (south side)
1980
- 1970: Exotic forest planting begins
2000

Urban devt Pine plantations
Pasture dominates catchment
Major forest clearance / sawmilling
Catchment covered in heavy bush

Source: Chris Hollis, GNS
Wellington Region
Historic Indigenous Vegetation Loss 1

Pre-Human

Source: Geographx NZ Ltd
Wellington Region
Historic Indigenous Vegetation Loss 2

Source: Geographx NZ Ltd
Wellington Region
Historic Indigenous Vegetation Loss 3

Present

Source: Geographx NZ Ltd
Wellington Region
Present Land Cover

Source: NZ Land Cover Data Map
Wellington Region
Current Catchment Forest Cover

Source: GWRC
"[Porirua Harbour] surrounded with low wooded hills for several miles."
1850. Godley (1936)

Source: www.matapihi.org.nz
“This is the worst country I ever saw for field operations. The forest is so thick as to be almost impenetrable. It is everywhere a mass of evergreen trees and shrubs matted and twined together with supplejack creepers and wild vines.” Tyrone Power 1849
“Two sketches by Colonel W.A. McCleverty of Porirua Road 1853 and Horokiwi Valley in 1854 show thick bush cover of rimu, tawa, rewarewa, nikau and tree fern.” Healy 1980
Original subdivision

New Zealand Company map of first settlements 1842

Porirua Village layout 1841

Source: Healy (1980)
Milling

Kaiwharawhara Mill 1843.
S. C. Brees.

Source: www.matapihi.org.nz

Hurley & Carter sawmill 1863.
John Bradey 1926
Pauatahanui catchment (Healy 1980)

Mid 1800s - two-thirds still in native forest.
By 2000 - two thirds was grassland.
Urban Development

Source: www.matapihi.org.nz
Early Whitby Development

Source: Chris Hollis, GNS
Land Use 1941-42

Source: Chris Hollis, GNS
Land Use 1973-74

Analysis of Historical Catchment Land Use and Land Use Change
Map of Land Use 1973-74

Source: Chris Hollis, GNS
Land Use 2000

Source: Chris Hollis, GNS
Trends from 1942 to 2000

- 35% reduction in grassland (83 to 54%)
- Increase in exotic forest (0.5 to 18%)
- Increase in urbanisation (0.2 to 4%)
- Increase in indigenous forest (4 to 6%)
- Increase in “bush” (16 to 23%)

Source: Chris Hollis, GNS
Rural erosion

Source: Chris Hollis, GNS
Urban earthworks & silt

Source: Chris Hollis, GNS
Stormwater

Photos: K Calder
Litter

Photo: K. Calder
Potential Future Developments

100% of Wellington City’s greenfield development
50% of Wellington region’s urban growth
Urban subdivision
Rural/residential intensification
Roading
Windfarms
Forest harvesting
Future catchment issues

- Exotic forest planting and milling
- Farming practice and change
- Further urbanisation & roading
- Sediment budgets
- Pollution
- Monitoring
- Climate change and sea-level rise