



Ko Aperahama Taonui he poropiti no Ngapuhi
I whakaohorere ai te iwi i ana matakite
Ka haere mai he taniwha!
Ka mohio te iwi i tenei morikarika
Na te ahua o ana niho –
He koura! He hiriwa!
Na reira, kua tae te wa, kua tae tera taniwha.
Kia oho! Kia mataara!
Kia tu tahi tatou!

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This report is produced by the Tuanuku Collective, a concerned and diverse group of people. We thank all contributors.

Let's look after our home, land and sea.

Cover 'Tihaehae 2' and other artwork ataahua by Theresa Reihana.

If your questions have not been answered in these pages, please email us: tuanuku.collective@gmail.com



Introduction

This report arrives at a time where the current John Key/ Steven Joyce National Government in is a rush to conclude Treaty settlements by their self-imposed deadline of 2014. While at the same time acting swiftly and aggressively to transfer ownership of mineral, metal and fossil fuel resources below the ground and the seabed to multinational companies.

The Government has allowed international corporate oil and mining interests to have a strong influence in re-writing laws including the EEZ and Continental Shelf Act 2012 and the Crown Minerals Amendment Act 2013. These have been passed under urgency.

A wave of prospecting and exploration permits to oil and mining companies are in the process of being granted. Prospecting, exploration or mining permits signed in this term of Government can last between 2 and 35 years with possibilities of renewal.

At the same time the Government is also in secret negotiations with 11 other Asia Pacific countries over a Trans Pacific Partnership Agreement (TPPA). This trade deal plans to give multinational companies the right to sue future governments if they passed improved environmental laws.

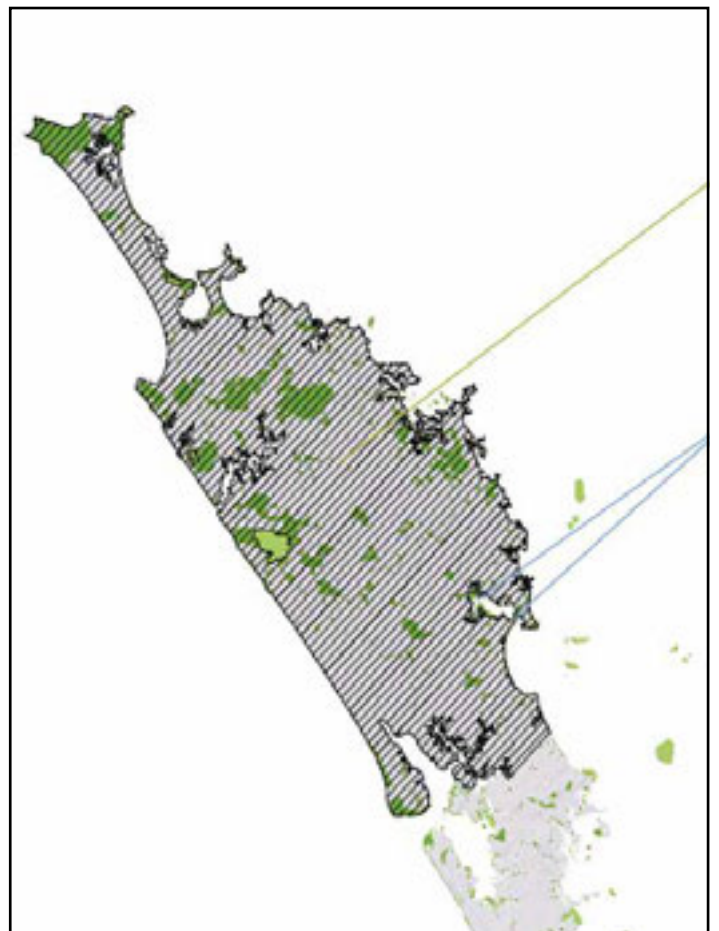
It would appear that these are times of international corporate colonisation of this country's resources and laws.

All this follows the aerial mineral survey of 2011 where nearly all of Northland (except Waipoua Forest) from near Wellsford to Cape Reinga (see map) was surveyed using aerial geomagnetic imprinting without consent from hapu nor residents. A team from the Ministry of Economic Development traveled overseas, sometimes joined by then Far North Mayor Wayne Brown and Finance Minister Bill English, and used this data to pitch Northland as a mining destination face to face to international mining companies.

The groundwork for extraction at sea was laid by Helen Clark's Labour Government, under the supervision of Jim Anderton as Minister of Economic Development.

The Foreshore and Seabed Act 2004, and its successor the Marine and Coastal Area (Takutai Moana) Act 2011 both assume Crown title to the seabed and obstruct Maori challenges to seabed mining in New Zealand courts.¹ At the same time, it further enables the Government to legally grant permits to multinational companies for prospecting, exploration and mining in exchange for the payment of a small percentage in royalties and taxes. Both Acts have drawn national and international criticism.

Judging from the illegal activity and destruction around existing swamp kauri mining, it is hard to see how new mining or drilling operations which can have toxic impacts will be enforced better.



1 <http://kasm.org.nz/kasm/about/timeline/#sthash.raBb6bjD.dpuf>.

The aim of this report is to give useful information to hapu and communities as a basis for action. Source references have been included if you want more specific information on a particular issue.

We outline:

- The more dangerous or destructive types of exploration, mining and drilling on land and sea underway and proposed for Te Tai Tokerau: deep sea oil drilling, swamp kauri mining, toxic hard rock mining and seabed mining/ mega dredging
- Some of the complex cultural and ecological issues involved in each area under current applications at the time of writing
- The level of danger with different extraction methods and possibilities to take into account
- What you can do

Fracking and inshore oil drilling are barely covered because at this time we know of no applications. Quarrying for limestone, roading aggregate and geothermal energy are lightly touched on because their impact is at the lower end of the scale.

The authors have tried not to create alarm. But the information in itself in many cases cannot help but be alarming. Debate continues if peak gold and peak oil has passed. Regardless, most of the world's easily accessible minerals, metals and fossil fuels have already been extracted. Remaining deposits are harder to get to and remove without causing damage or waste, this often means increased and multiple dangers.

With few exceptions, the employment possibilities are low compared to other industries, mainly because mining and drilling does not directly employ many people. Internationally the mining industry is also looking to use robots to avoid health and safety issues and make extraction cheaper. This direction would also reduce employment.

In industrial mining and drilling industries, the highest paying jobs are in engineering, the Board of Directors, lawyers. The lion's share of economic benefits go to overseas corporate shareholders.

Behind the printed words of this report are invisible questions:

- What's the hurry?
- What kind of future do we want for ourselves and those that follow us?
- How do we express our obligation of care in these places we live?
- How do we react to these corporate proposals for extraction and the impacts we and future generations would need to live with?

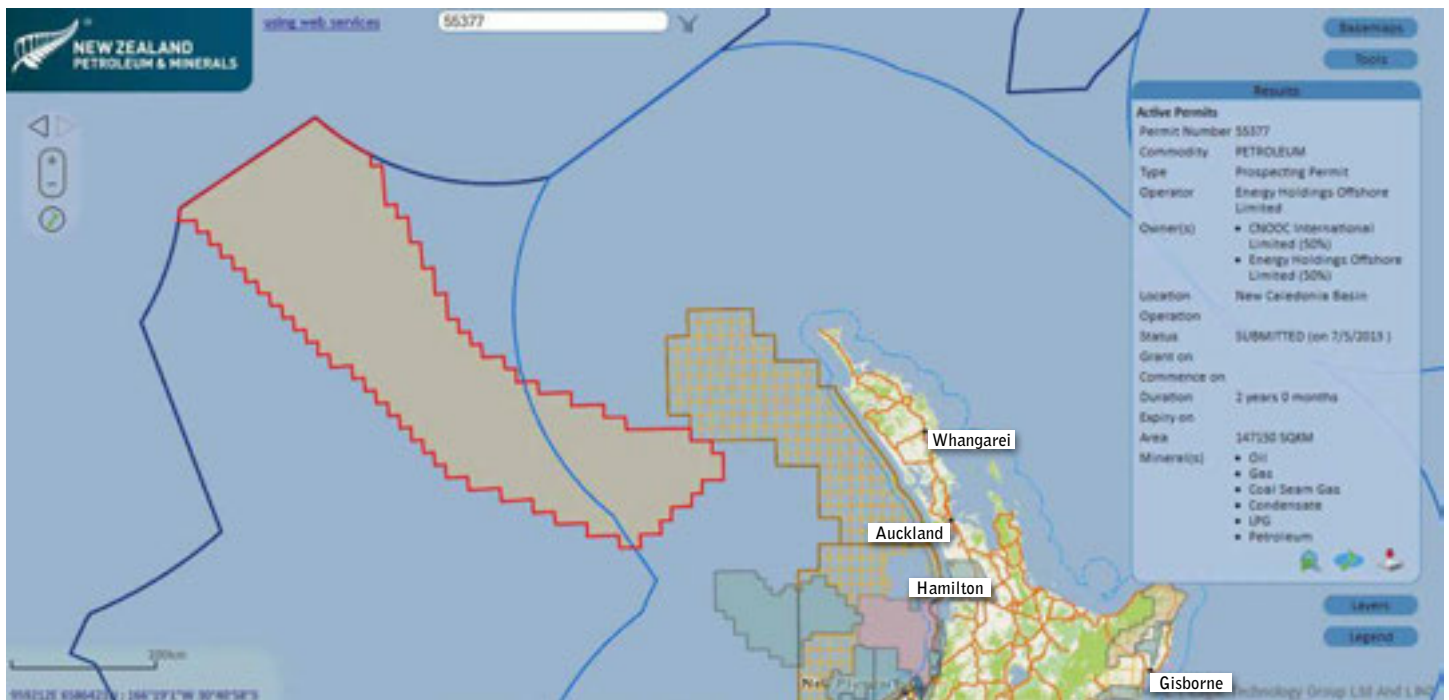
What this report does not offer is how a future of how Te Tai Tokerau could look within the parameters of sustainable development options: green technology, rahui, eco-tourism, sustainable transport. It deals strictly with the immediate issues of mining and drilling proposals.

We hope you turn this information into action.

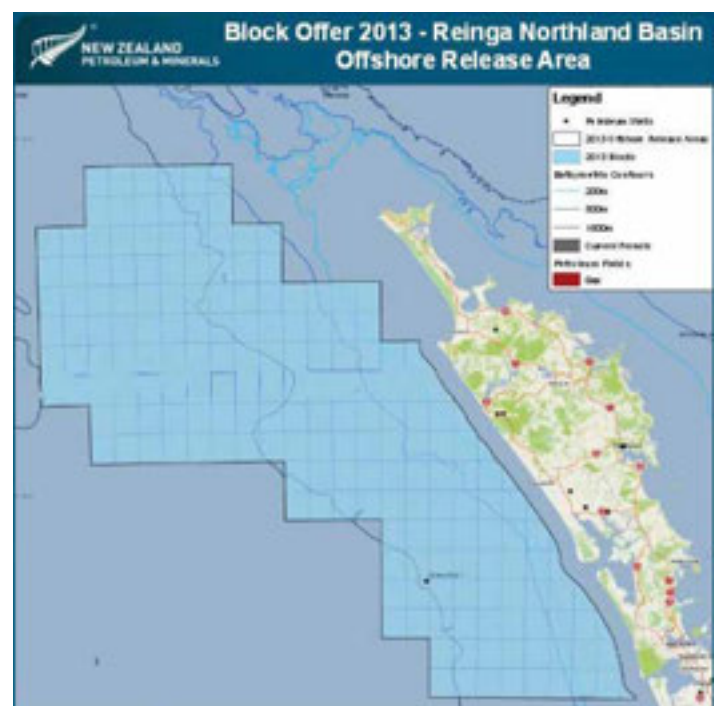
Deep Sea Oil

TARGET AREAS:

These Government maps show the locations of permits and 'Block Offer' areas that the Government is currently soliciting bids of interest for exploration from oil companies



- New Caledonia Basin (in red above) off the west coast of Northland which forms the outer EEZ and Continental Shelf.
- 2013 Petroleum Block Offer (in light blue, right) awaiting successful bids covering 53,746.9 km² of seabed from the 12nm line and out into the Tasman Sea west of Northland. This includes deep sea zones that are below 200m depth.²
- Possible block offers off Northland's east coast in the next few years.



² <http://data.nzpm.govt.nz/permitwebmaps?commodity=petroleum>.

NATURE OF ACTIVITY:

Previous block offers from 2008 to 2010,³ 'attracted interest from local and international companies but no permit awards were announced'.⁴ Two permits were awarded in 2006 west of Auckland to OMV New Zealand Ltd (50% interest) and Origin Energy Resources NZ Ltd (50% interest) following the 2005 Northland petroleum block offer.⁵

A two year prospecting permit has been submitted to the Government for the extensive New Caledonia Basin from Energy Holdings Offshore Ltd.⁶ The permit is 50% owned by China National Offshore Oil Corporation International Ltd⁷ with the other 50% owned by Energy Holdings Offshore Ltd which is an arm of Shell Investments NZ Ltd.⁸

Public money was used to fund undersea geological research.⁹ From this, data packs with '2D and 3D open file SEG Y data, a selection of wells, reports and additional studies' are used to promote Northland's deep sea geology for oil and gas oil to companies internationally and encourage them to tender for oil block offers¹⁰. The Government closed the 2013 oil block offer in late September 2013. From this round, announcements of any new permits are expected in December 2013, pending 'iwi consultation'.

Government's deadline for this 'iwi consultation' is 14 November 2013 for the prospecting permit submitted over the New Caledonia Basin and vast ocean areas the Government wants to put out for tender in the 2014 oil block offer.

The public is completely excluded from any input into decisions made on deep sea oil exploration or oil block offers.

Off other parts of the country, Anadarko, Shell and other multinationals are expected to start drilling exploration deep sea wells over the summer of 2013-14.

MANA WHENUA/MANA MOANA ISSUES:

'Iwi consultation' over 2014 Block Offer deep sea oil tenders in the Northland/Reinga and New Caledonia Basins were announced in mid-September 2013.¹¹

On 9 October at Terenga Paraoa Marae in Whangarei, an oil and gas consultation hui was held with Whangarei District Council hapu representatives. It was difficult not to see the process as a public relations effort for oil companies with key questions and concerns unanswered. This mirrored similar hui in southern tribal rohe where the Government ignored the concerns and positions of Te Whanau a Apanui and Ngati Kuri of Kaikoura. In Kaikoura, reports were that hapu were patronised with platitudes and stonewalled regarding answers to their questions. Soon after, the Government then gave seismic surveys the go-ahead to multi-national oil companies.

ENVIRONMENTAL IMPACTS:

Climate change

The end use of burning oil, petrol and gas that may be extracted all contributes to global climate change¹² which is changing atmospheric and sea temperatures that impacts the whole food web across the world's land and oceans.

3 <http://www.nzpam.govt.nz/cms/pdf-library/block-offers/2012/FINAL%20-%202010%20Offshore%20Reinga%20blocks%20offered.pdf> and <http://www.nzpam.govt.nz/cms/pdf-library/block-offers/2012/FINAL%20-%202008-2010%20Offshore%20Northland%20blocks%20offered.pdf>.

4 http://www.nzpam.govt.nz/cms/petroleum/block-offers/past-block-offers#2010_northland.

5 http://www.nzpam.govt.nz/cms/pdf-library/block-offers/2012/2005_Offshore_Northland.pdf.

6 http://www.nzpam.govt.nz/cms/pdf-library/block-offers/2012/2005_Northland_Awarded.pdf.

7 http://en.wikipedia.org/wiki/China_National_Offshore_Oil_Corporation.

8 <http://opencorporates.com/companies/nz/450359>.

9 http://www.rigzone.com/news/article.asp?a_id=84513.

10 <https://data.nzpam.govt.nz/GOLD/system/mainframe.asp>.

11 <http://www.maoritv.com/news/national/new-proposed-oil-and-gas-exploration-areas-announced>.

12 Human influence on climate clear, IPCC report says: http://www.ipcc.ch/news_and_events/docs/ar5/press_release_ar5_wgi_en.pdf.

Ecological effects

There are different risks with differing magnitude of impacts at each phase with deep sea oil:

- **Exploration:** Seismic testing fires sonic explosions below the water behind ships. The sound waves penetrate the sea floor and reflect back to hydrophones that are being towed and float just below the sea surface. The rebounding sound waves can indicate hydrocarbon deposits and geologies beneath the seabed.¹³ Scientists have expressed concerns that the seismic survey explosions impact the navigation and movement of whales and other marine mammals that possibly lead to strandings,¹⁴ reduction in commercial fish catch¹⁵ and other problems have been highlighted across the world.
- **Drilling exploration wells:** As easily accessible oil has been extracted and consumed, the oil industry has expanded into new areas. Deeper sea wells are being drilled in more dangerous locations.¹⁶ 'Deep water' is defined as below 200 metres depth. Current deepwater drilling plans around New Zealand's coast includes extreme deep sea drilling to depths of 1500m,¹⁷ a similar depth to what the Deepwater Horizon rig was drilling. The deepest points of the Northland/Reinga deep sea basin are 1800m below the waves these sites are literally the new 'frontier' locations for oil drilling. Enormous pressure from underground reservoirs makes the work dangerous. Oil companies are drilling into rock layers where every square centimetre is subject to pressure equivalent to the weight of a medium-sized car. Drilling into such an oil or gas reservoir presents a risk of the fuels shooting upward in an explosive and uncontrolled way. Initial drilling into the deep sea floor also expels volumes of toxic drilling sludge made up of mud and drilling fluid.

Human divers are at the extreme limits of their abilities in depths of 200m, so if a blowout or other accident occurs in deep water, help can be difficult to come by.

The most notorious example is the catastrophic blowout at BP's Deepwater Horizon rig in 2010 that killed 11 crew members. It took three months to plug the deep sea well but not before 660,000 tonnes of light crude oil spewed into the Gulf of Mexico, devastating resources of local indigenous people and their ways of life,¹⁸ wildlife, local fishing and tourism.

This part of the world had some of the most advanced and accessible help, unlike here.

A size comparison of the Deepwater Horizon oil spill against a map of Aotearoa shows the spill itself is potentially bigger than Te Ika a Maui/the North Island.¹⁹ Recent modelling shows that if a catastrophe like this occurred out from western Taranaki, currents would travel large distances, including up along Northland's west coast²⁰. Obviously a large oil spill directly out from Northland would have greater impacts on the region. But even a small spill would still have devastating effects on food webs and people's ability to eat kaimoana and may still need international help.²¹

Oil in the Gulf of Mexico had a huge impact throughout the ocean ecosystem.²² Sperm whales and other cetaceans that died were coated in oil, or died after they had eaten oil contaminated prey.

The ecological impacts of deep sea oil exploration and potential spills are far reaching and different, depending on the time of year these events might happen. Many birds, fish and marine mammals follow annual migration routes to feed and breed.



© Greenpeace / Dom Zapata

¹³ http://en.wikipedia.org/wiki/File:Diagram_of_a_marine_seismic_survey.png.

¹⁴ <http://www.stuff.co.nz/good-reads/9050881/White-noise-for-whales>.

¹⁵ <http://www.nrdc.org/oceans/files/seismic.pdf>.

¹⁶ <http://press.ihs.com/press-release/energy-power/ihs-cera-role-deepwater-production-global-oil-supply>.

¹⁷ Search for Oil in NZ Hits Top Gear: http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11133133.

¹⁸ Brenda Dardar-Robichaux, principal chief of the Houma Nation of Louisiana, interviewed on initial impacts of Deepwater Horizon disaster on the Houma Nation: <http://www.npr.org/templates/story/story.php?storyId=127405886>.

¹⁹ <http://www.greenpeace.org/new-zealand/en/campaigns/climate-change/Oil-drilling-not-a-solution/>.

²⁰ Blow-up Over Oil Blow Out Study: http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11144470

²¹ Our Oil Spill Risk: http://www.nzherald.co.nz/northern-advocate/news/article.cfm?c_id=1503450&objectid=11145400

²² <http://www.theguardian.com/environment/2012/oct/24/whale-death-deepwater-oil-spill>.

The Auckland Islands, 350 km south of Rakiura/Stewart Island, is the main place that southern right whales breed and calve.²³ These same whales migrate around the country, including off Northland's coast.²⁴

Humpback whales are occasionally seen off our coast, swimming between Antarctic waters, where they spend the summer feeding on krill, and the tropics, especially Tonga, where they breed in winter. They used to travel north along the east coast of New Zealand and back southwards down the west coast, sometimes passing through Cook Strait.²⁵

Many seabirds only come to shore to nest and moult and otherwise spend the rest of their lives at sea. Sometimes these birds will migrate huge distances, others have vast areas that are their range.²⁶ For example, some white capped albatross that nest on the sub-Antarctic Auckland Islands in summer can be seen out from Whangaroa in winter.²⁷

When the Rena's oil spread around the waters of the Bay of Plenty and washed up on beaches it was spring. Seabirds from vast distances were feeding in the Bay of Plenty, sometimes returning with food for their chicks. Over 1350 dead oiled bird bodies were collected and identified, including species of albatross, oi, titi and penguins. Scientists found some of these birds were from nesting locations as far away as the Poor Knights Islands in the north, the Chatham Islands in the east, the sub-Antarctic Auckland Islands in the south and one dead albatross was from nesting colonies in either the Indian Ocean or South Georgia.²⁸ The impact of the Rena spill on seabirds extended well beyond the Bay of Plenty and the exact number of bird deaths will never be known.



© GEMZ Photography

In 2003, the New Zealand storm petrel, thought to be extinct, was rediscovered. The NZ Ornithological Society believes there is an undiscovered breeding population somewhere in the Far North, probably on an offshore island. This is an example of the vulnerability to extinction of some birds. Also Pycrofts Petrel only breeds on a few islands, one being in the Far North. As more offshore islands and mainland forests become predator free, the seabird numbers will increase. Many seabirds depend on plankton that feed on the ocean surface. Impacts of an oil spill would ricochet through the food chain.

Earthquakes:

The Government has shown no concerns to pull back deepwater drilling licences from areas where earthquakes have occurred. This approach has been criticised by many as reckless.²⁹

Use of CoRexit Oil Dispersant:

Both in the Gulf of Mexico and in the Bay of Plenty oil spills, chemicals marketed as CoRexit 9527 and CoRexit 9500 were sprayed across slicks to disperse oil. These products are intended to break up an oil slick into small particles which can sink into the water and get eaten up by microbes. But when the cocktail of both oil and CoRexit combine toxicity increases by 53 times.³⁰

Two years on, mutations of crabs, fish, shrimp and other wildlife in the Gulf of Mexico are being linked to the use of CoRexit.³¹

Three years later, research into severe health effects, including cancers, and deaths of people who have accidentally come in contact with CoRexit shows it can be invisibly absorbed into the skin³² and causes cancers. CoRexit is banned in 18 countries. Regardless, the Government's oil response arm, Maritime NZ, has stockpiled 3000 litres of CoRexit 9527 in Tauranga for use if another oil spill occurs.³³

23 <http://www.doc.govt.nz/documents/science-and-technical/casn321.pdf>.

24 http://www.whangarei.co.nz/blog/entry/southern_right_whales_off_tutukaka_coast.

25 <http://www.teara.govt.nz/en/whales/page-4>.

26 <http://www.doc.govt.nz/documents/science-and-technical/sap232.pdf>

27 Carol Ann Davies, Dettel Davies, NZ Ornithological Society, personal comments and offshore bird survey results, 28 September 2013.

28 <http://collections.tepapa.govt.nz/publication.aspx?irn=3818>.

29 <http://www.scoop.co.nz/stories/P01307/S00313/earthquake-a-warning-against-oil-drilling-in-pegasus-basin.htm>.

30 <http://www.sciencedirect.com/science/article/pii/S0269749112004344>.

31 <http://www.aljazeera.com/indepth/features/2012/04/201241682318260912.html>.

32 Crude Solution: BP's CoRexit, 60 Minutes, 27 August 2013: <http://www.youtube.com/watch?v=e1cXrkW9n-E>.

33 Toxic chemical ready for use in the Bay, http://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c_id=1503343&objectid=11126950.

ECONOMIC CONSIDERATIONS:

Oil, petroleum and gas is burnt for transport, energy and heating. It is also an ingredient used in plastic production and agricultural chemicals. However, as the most easily accessible deposits of oil have been used, the amount of energy spent and burnt to extract a barrel of oil increases and more extreme areas like the Arctic and the deep sea are targeted.

Our 'clean green' reputation is worth \$36.7 billion annually.³⁴ It is the marketing dream of most nations. Living up to it would increase its integrity and benefit our lives, future generations and our overseas earnings. More than the shallow cosmetics of advertising, the 'clean green' concept is one of core identities of the peoples of this country, which integrates many concepts of kaitiakitanga.

Deep sea oil drilling puts this reputation at risk. One large spill could seriously undermine what has taken years of work to define, and the economic impact could be catastrophic. The US imposed the 'single largest criminal fine' on BP of US\$4.5 billion.³⁵

Employment

Politicians have repeatedly claimed that finding oil in the deep sea off Northland would provide local jobs.³⁶ But was is contradicted by oil industry lobby group PEPANZ (Petroleum Exploration and Production Association of New Zealand) during the November 2012 consultation period³⁷ which said that any Northland deep sea oil extraction would be run out of Taranaki where the existing infrastructure would be used. Since this revelation, the political spin has shifted to claiming the money made allows Northland's schools and hospitals to work.

Waahi tapu issues:

Te Rerenga Wairua/Cape Reinga and Te Ara Wairua (the spiritual pathway) are of indescribable spiritual significance. The scenario of these sites being contaminated by oil pollution is overwhelmingly unacceptable.

Response capacity

When the Rena spilled a comparatively small 350 tonnes/2,555 barrels of oil into the Bay of Plenty, the capabilities of this country to contain and clean up oil were shown to be seriously lacking. In the following few days, commercial fishing boats were grounded, a large area made off limits for gathering kaimoana,³⁸ marine and tourism industries were also impacted.³⁹

On Motiti Island, 7 km from the grounded Rena, taking kaimoana was out of the question and oil contaminated froth and sea spray took hydrocarbons across the island.⁴⁰ This had economic and environmental consequences for hapu. Huge disruption and stress threw hapu into an unknown future. A year later there was still uncertainty if scallops, koura, paua and kina were safe to eat.⁴¹

Since this time the Government's oil response arm, Maritime NZ, along with Government Ministers have assured the public that if another oil spill occurred, they have learnt from the Rena experience and are now ready. But a look at Maritime NZ website does not give the same assurance. It says, there are tools stockpiled at locations around the country to deal with a spill, but most telling are the three 8.2 metre boats available to deal with a national oil spill and that 'additional response equipment can be brought in from a number of international locations including Australia, Singapore and the United Kingdom'.⁴² It's unclear how long this may take and the availability of this assistance.

To represent the capabilities of this country as sufficient to effectively deal with even a medium sized oil spill is at best unrealistic and at worst dishonest.

³⁴ <http://www.greenpeace.org/new-zealand/en/blog/the-clean-green-principled-economy/blog/43770/>.

³⁵ <http://www.theguardian.com/environment/2012/nov/15/bp-deepwater-horizon-gulf-oil-spill>.

³⁶ <http://www.stuff.co.nz/auckland/local-news/northland/bay-chronicle/8618876/Oil-find-could-have-big-impact>.

³⁷ Minutes of Informal meeting with Petroleum Exploration & Production Association of NZ (PEPANZ), Boatshed Café, Rawene, 13 November 2012.

³⁸ <http://www.maoritelevision.com/tv/shows/tangaroa-pio/S08E002/tangaroa-pio-series-8-episode-2>.

³⁹ <http://www.greenpeace.org/new-zealand/en/reports/Out-Of-Our-Depth-Deep-sea-oil-exploration-in-New-Zealand/>.

⁴⁰ <http://www.greenpeace.org/new-zealand/en/blog/renas-black-tide-brings-heartbreak-on-motiti-/blog/37347/>.

⁴¹ <http://www.stuff.co.nz/environment/rena-crisis/7686117/Rena-frustration-lingers>.

⁴² <http://www.maritimenz.govt.nz/Environmental/Responding-to-spills-and-pollution/Spill-response-equipment.asp>.

POLITICAL CONSIDERATIONS

Since 2009, the multinational fossil fuel industry has been given \$150 million of public money (including \$46 million in 2013) to encourage their investment in New Zealand. These have been in the form of Government subsidies, tax breaks, and seismic survey and research funding.⁴³ Although not often mentioned, this equates to revenue foregone by New Zealanders. The Government has also allowed loopholes in the Emissions Trading Scheme which advantage the extraction industry,

In September 2013, the Government passed a law amendment for all deep sea oil exploration well consents to be 'non-notified'⁴⁴ meaning potentially they could happen almost automatically and without public scrutiny. The Government also pushed through changes to the Crown Minerals regime under urgency⁴⁵ that:

- Create a new offence of intentional damage or interference with mining structures, ships or activities in offshore areas within the territorial sea or exclusive economic zone (punishable by maximum 12 months imprisonment or fine of \$50,000 for individuals or maximum fine of \$100,000 for body corporates);
- Create a new strict liability offence for any ship or person entering into a specified non-interference zone without reasonable excuse (punishable by maximum \$10,000 fine); and
- Give the Police and Defence Force powers to detain and arrest, board ships or otherwise prevent people and ships from entering the non-interference zone, without warrant.

The Government continues to compare future deepwater oil drilling to current petroleum production off Taranaki where the deepest production well bores into the seabed at 125 metres depth. This is misleading. Deepwater drilling begins at 200 metres depth. Exploration licences have been issued down to 3000 metres in the Raukumara Basin.

Regulation:

The Government strategy has been to lure the international oil industry here without having laws and regulations in place for deep sea oil drilling. Economic Development Minister Steven Joyce has said that, "If you make things over-burdensome in the early stages of exploration then you will end up in a situation where [international companies] won't bother."⁴⁶

The Government on one hand claims that 'New Zealand's regulatory framework is the best in the world'.⁴⁷ But on the other hand, the oil industry has been asked to work under its own voluntary operating procedures until 2014.

It was this type of sloppy mix of trusting corporations to self-regulate that was found to be a key factor in the Gulf of Mexico spill.

An image released by the US Government of a sperm whale that died in the oil slick in the Gulf of Mexico. Whales died from eating prey covered in oil, blocked blowholes and burns from toxins in the oil. © NOAA



⁴³ <http://www.wwf.org.nz/?10762/New-report-exposes-Government-hypocrisy-on-fossil-fuel-subsidies>.
⁴⁴ http://www.nzpam.govt.nz/cms/news_media/2013/consultation-on-block-offer-2014-under-way.
⁴⁵ <http://www.lawsociety.org.nz/lawtalk/archives/issue-817/sop-sinks-mining-protesters>; and <http://www.scoop.co.nz/stories/P01309/S00275/marine-legislation-bill-and-human-rights.htm>.

⁴⁶ <http://www.stuff.co.nz/national/politics/9121336/Deep-sea-oil-plans-anger-stars>
⁴⁷ <http://tvnz.co.nz/national-news/planned-oil-exploration-outrages-kaikoura-residents-5535929>.

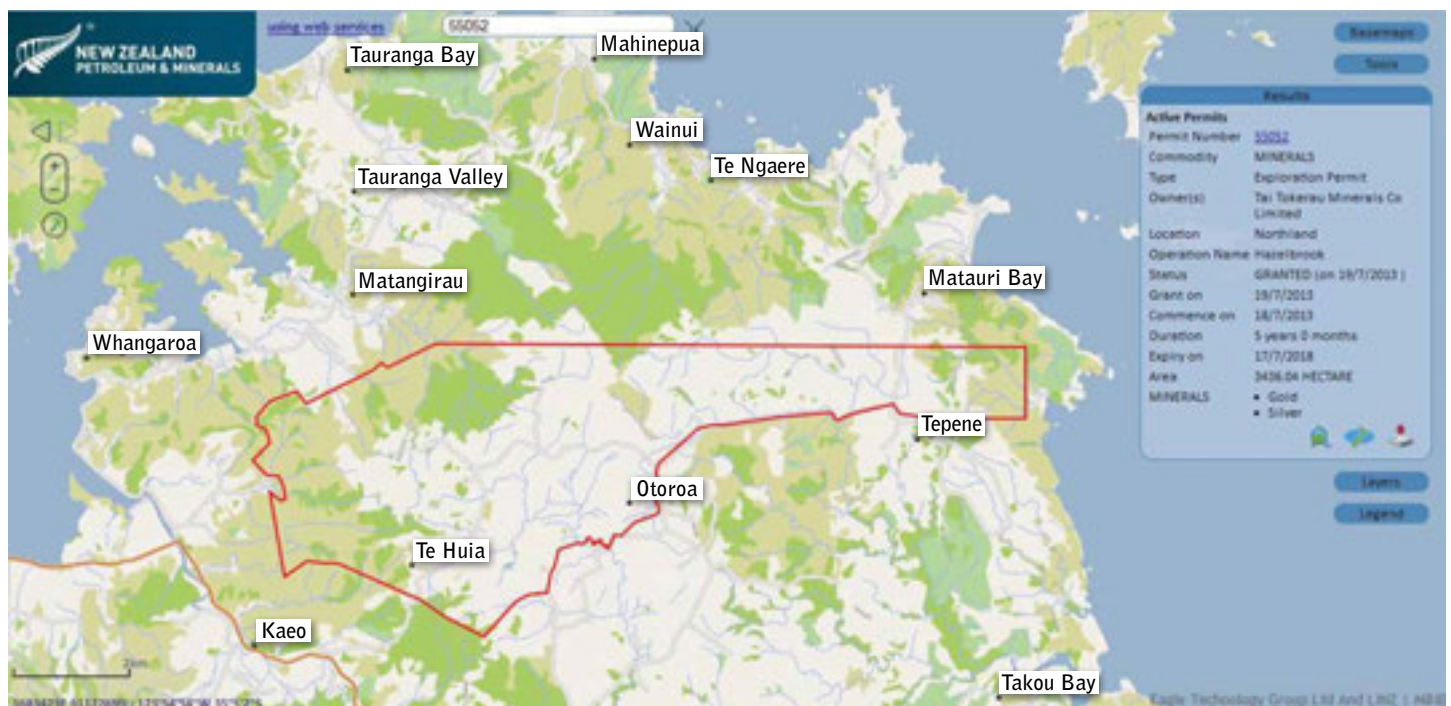
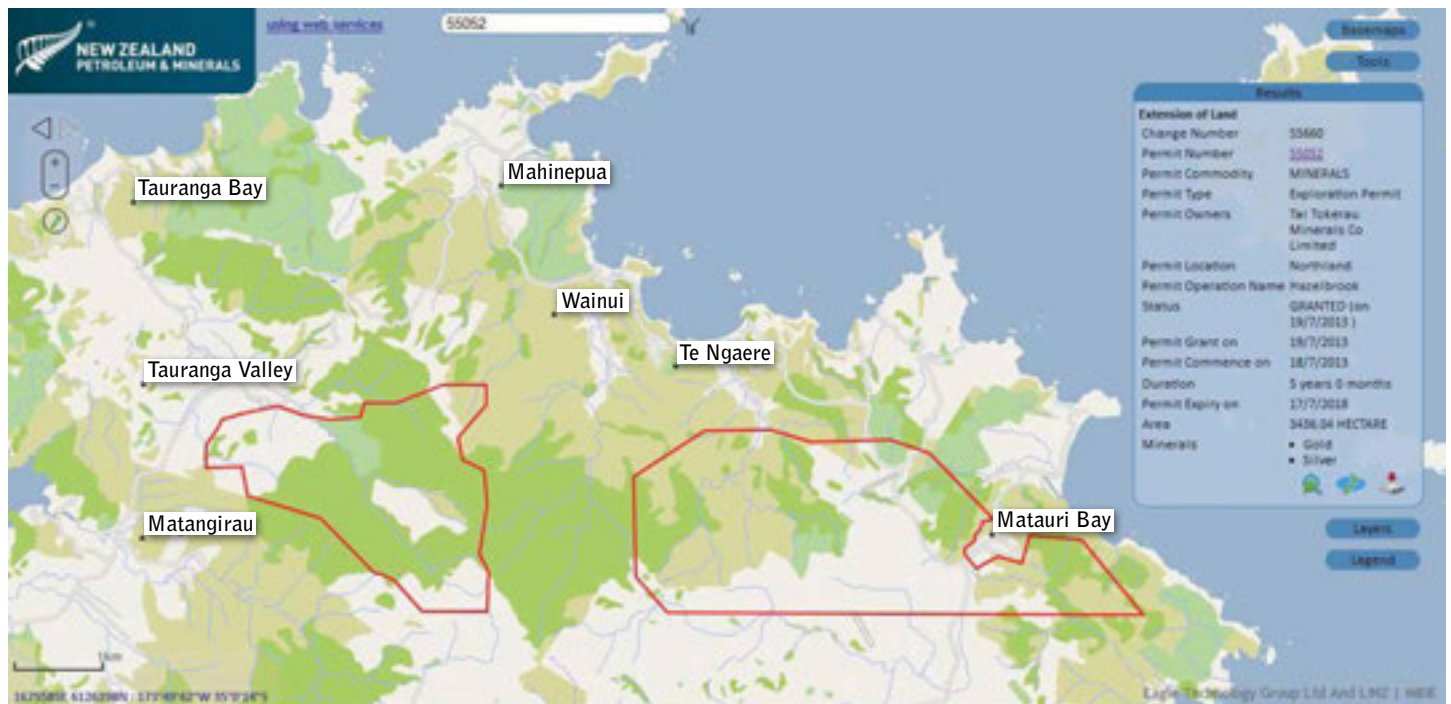


Toxic Hard Rock Mining

TARGET AREAS:

Past exploitation: at Puketū, Puhupuhi and elsewhere. The following areas are being recommended for new exploration permits:⁴⁸

- Tai Tokerau Minerals Ltd at Te Huia/Whakarara tablelands. With two new 'Extension of Land' permits proposed over Whakarara. [Permit numbers: 55052. Proposed 'Extension to Land' permit number 55660]

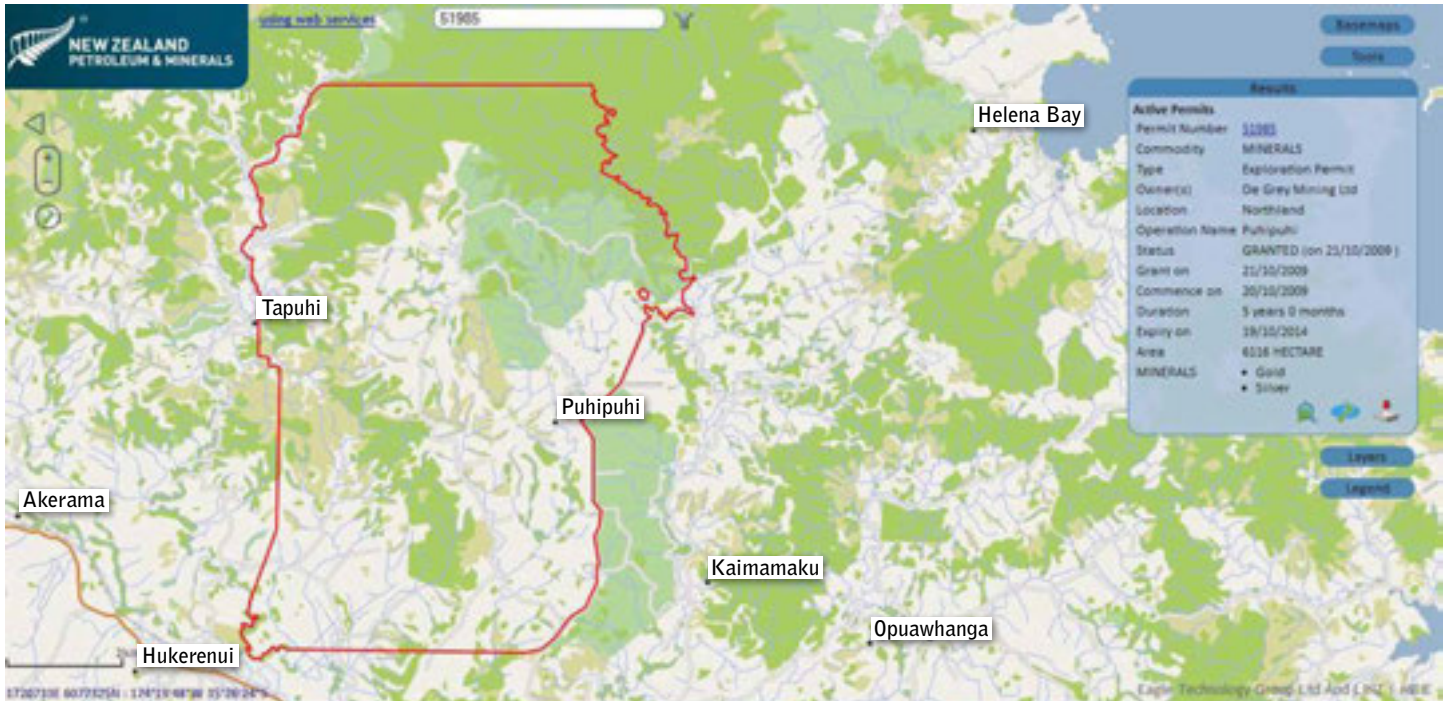


48 <http://www.nzpam.govt.nz/cms/pdf-library/minerals/competitive-tender/map-northland-bid-recommended.pdf>.

Tai Tokerau Minerals Ltd also has another exploration permit in the Whangaroa catchment from Puketi/Waiare to Lake Manuwai [Permit number 55053].



- De Grey Mining Ltd across Puhipuhi and Russell Forest [Granted permit number: 51985. Permit numbers: 55057, 55058].



Recent decades have seen an exploration permit over Puhipuhi [Granted permit number: 51985] transferred through a succession of companies which have conducted various core sample drilling and other mineral exploration research. The Puhipuhi exploration licence currently resides with Perth-based De Grey Mining Ltd who are committed to drilling core samples⁴⁹ and have been trying to raise capital from shareholders.

In a Northland Regional Council commissioned report released in 2007, exploration beneath Puhipuhi at that time “outlined

a zone 4.5 km long by 1.0 km wide” with gold, silver, arsenic, antimony and barium contents in the soil.⁵⁰ The report went on to suggest that “there is potential for a mine with a similar output to the Martha mine at Waihi”.

Forty million tonnes of toxic waste has been produced from the Martha Mine near Waihi and stored in huge lakes near the town⁵¹ (see below and next page). Every industrial gold mine in the North Island has resulted in vast amounts of toxic waste⁵² left behind which needs to be stored out of the food chain, beyond timescales we can imagine.



49 http://www.degremining.com.au/_content/documents/785.pdf.

50 Christie, A.B., Barker, R.G. 2007. Mineral resource assessment of the Northland Region, New Zealand, GNS Science Report, 2007/06, 179.

51 <http://watchdog.org.nz/coromandel-gives-newmont-message-no-more-mining/press-releases/google-image-shows-real-life-eden-park-mining-impacts/>.

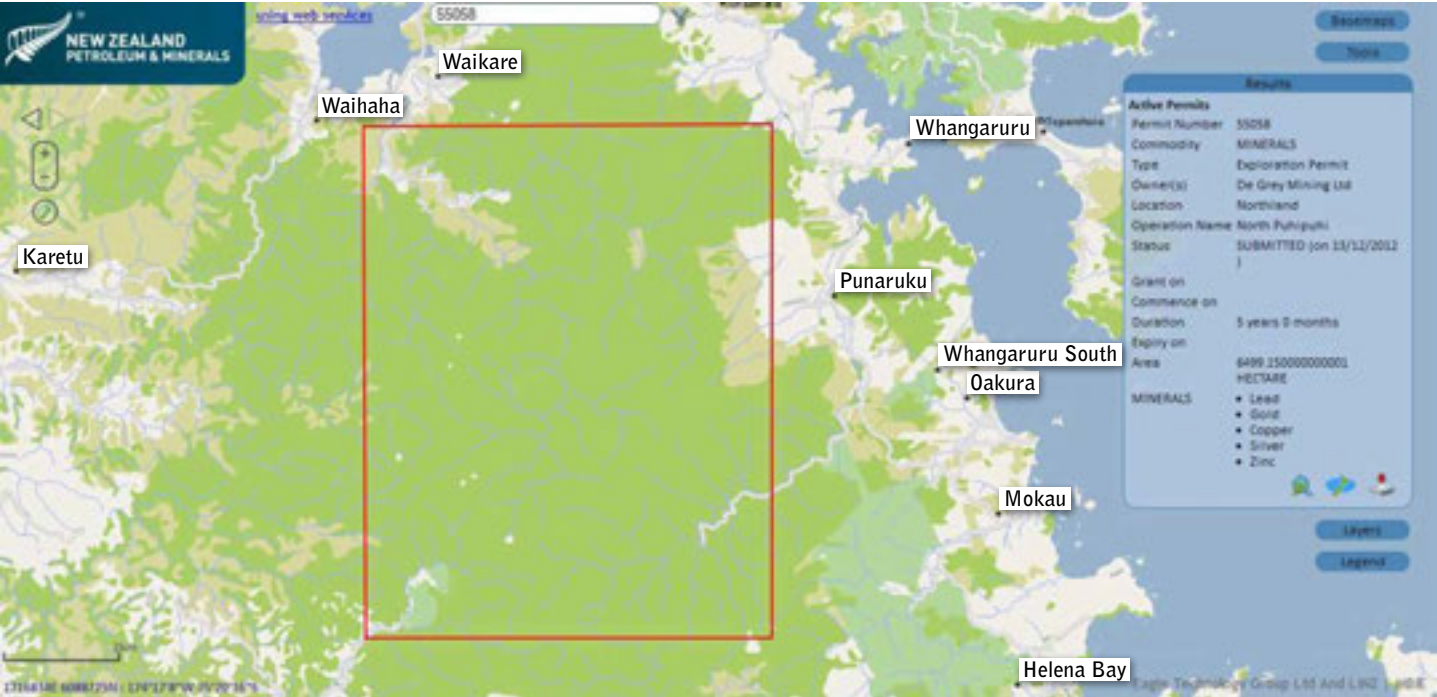
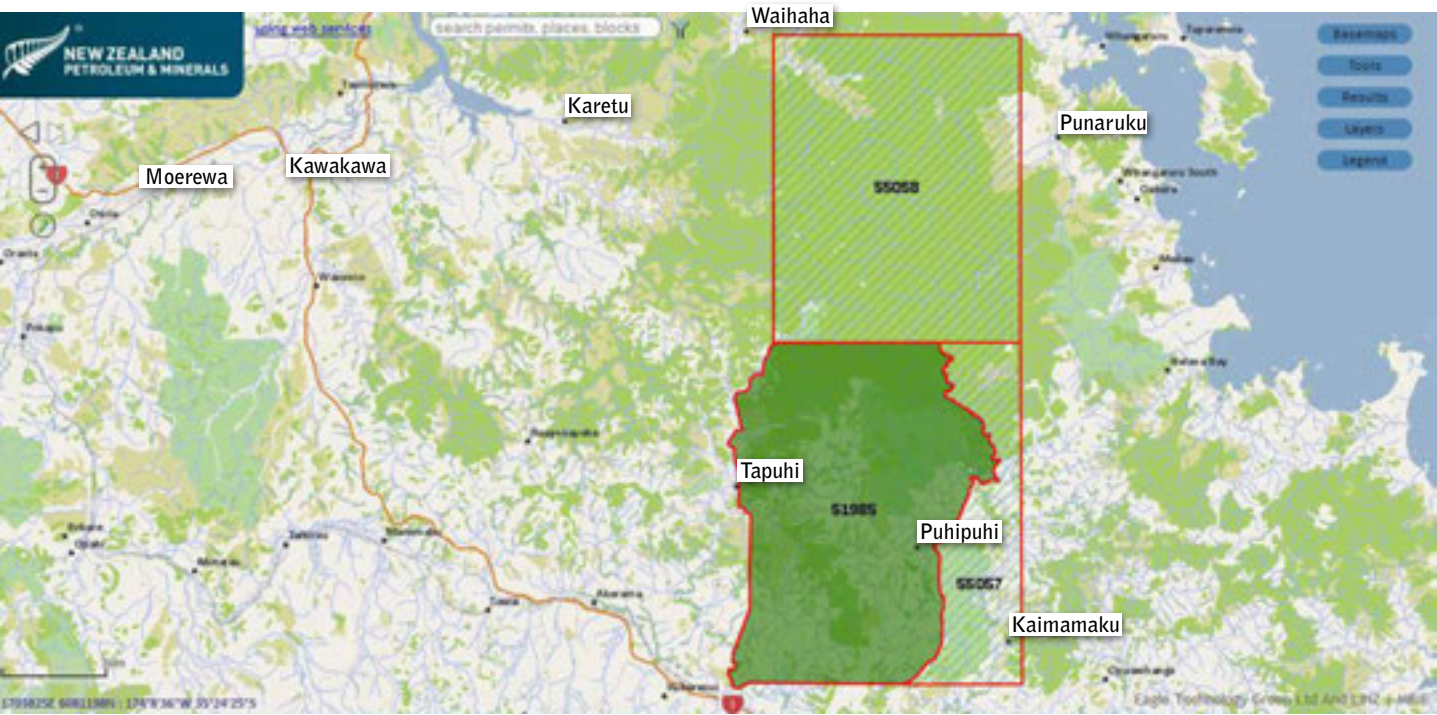
52 This includes the Gold Cross Mine at Waipapakauri, Tui Mine near Te Aroha and the Martha Mine at Waihi. See: <http://watchdog.org.nz/coromandel-gives-newmont-message-no-more-mining/press-releases/latest-figures-show-true-extent-of-toxic-legacy-from-coromandel-mine/>.

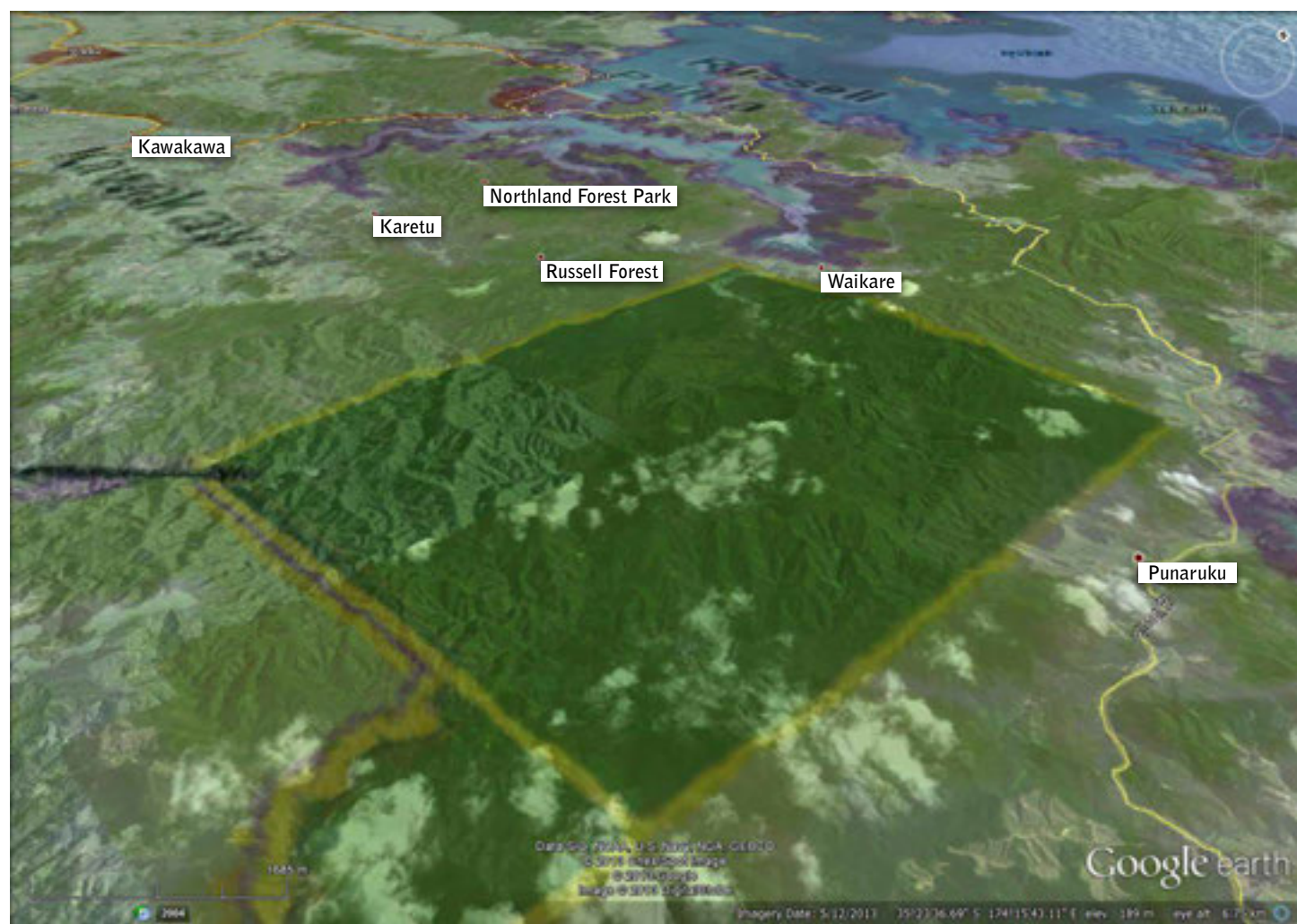
The Martha Mine at Waihi used to be a mountain called Pukewa. © Kim Westerskov



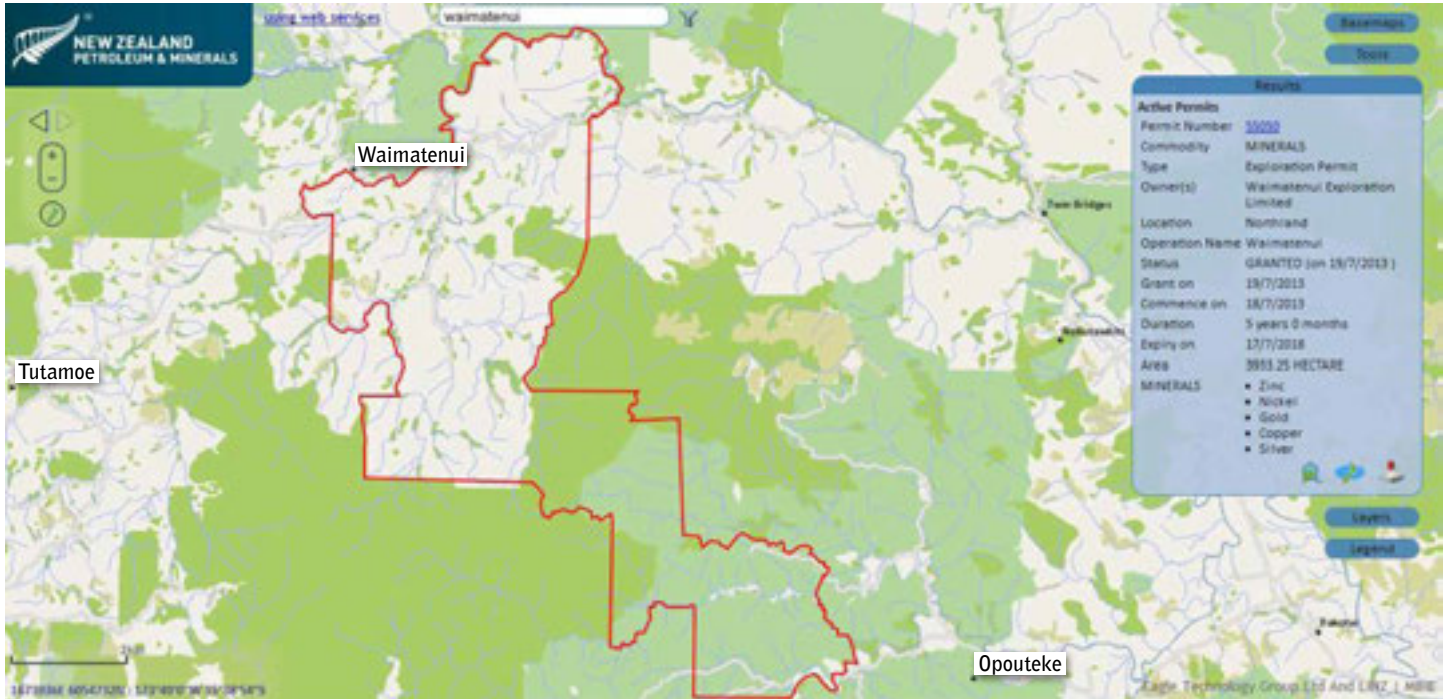
Near Waihi, dams holding of over 40 million tonnes of toxic waste are less than four kilometres from the sea. © Kim Westerskov

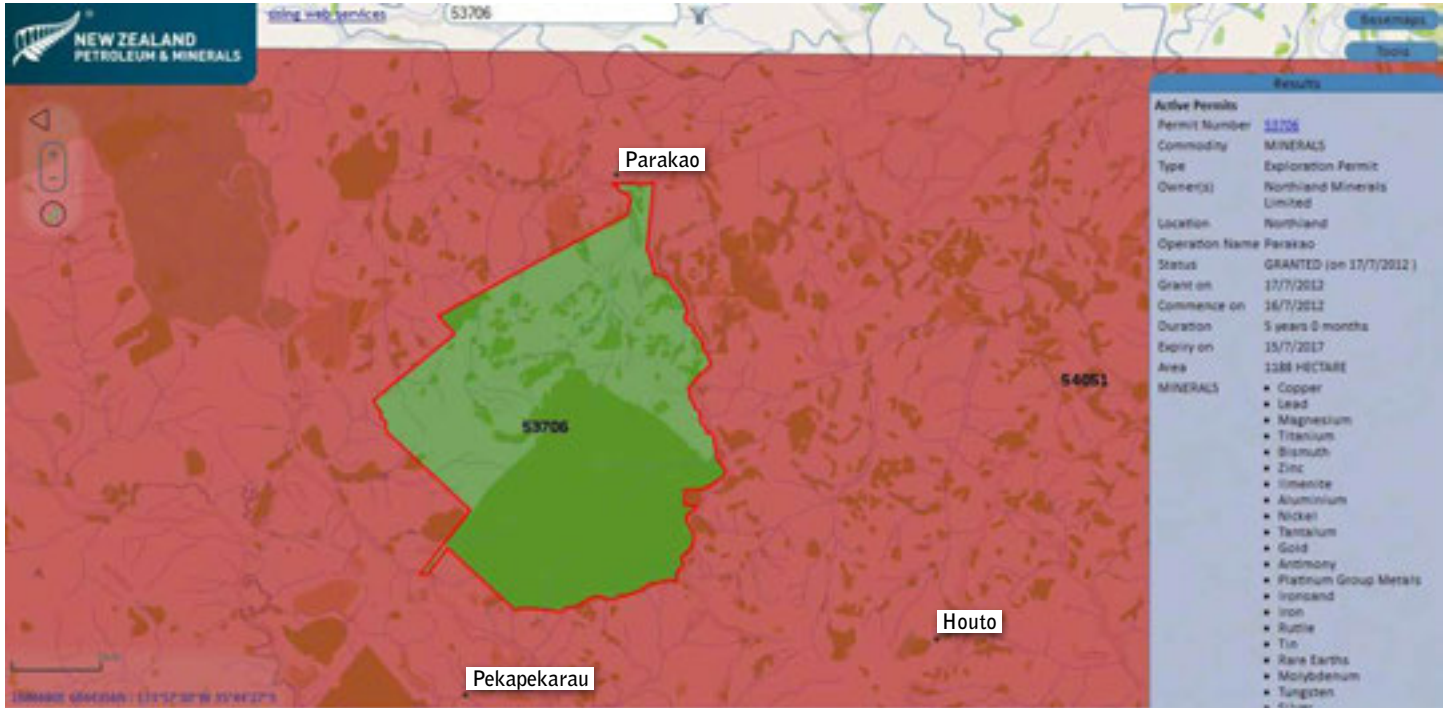
De Grey Mining Ltd also have been given two more new exploration licences extending east from Puhipuhi [Permit number: 55057] and across Russell State Forest [Permit number: 55058].





- Waimatenui Exploration Ltd covers farmland at Waimatenui and some of the DOC-managed Marlborough native forest [Permit number: 55050]



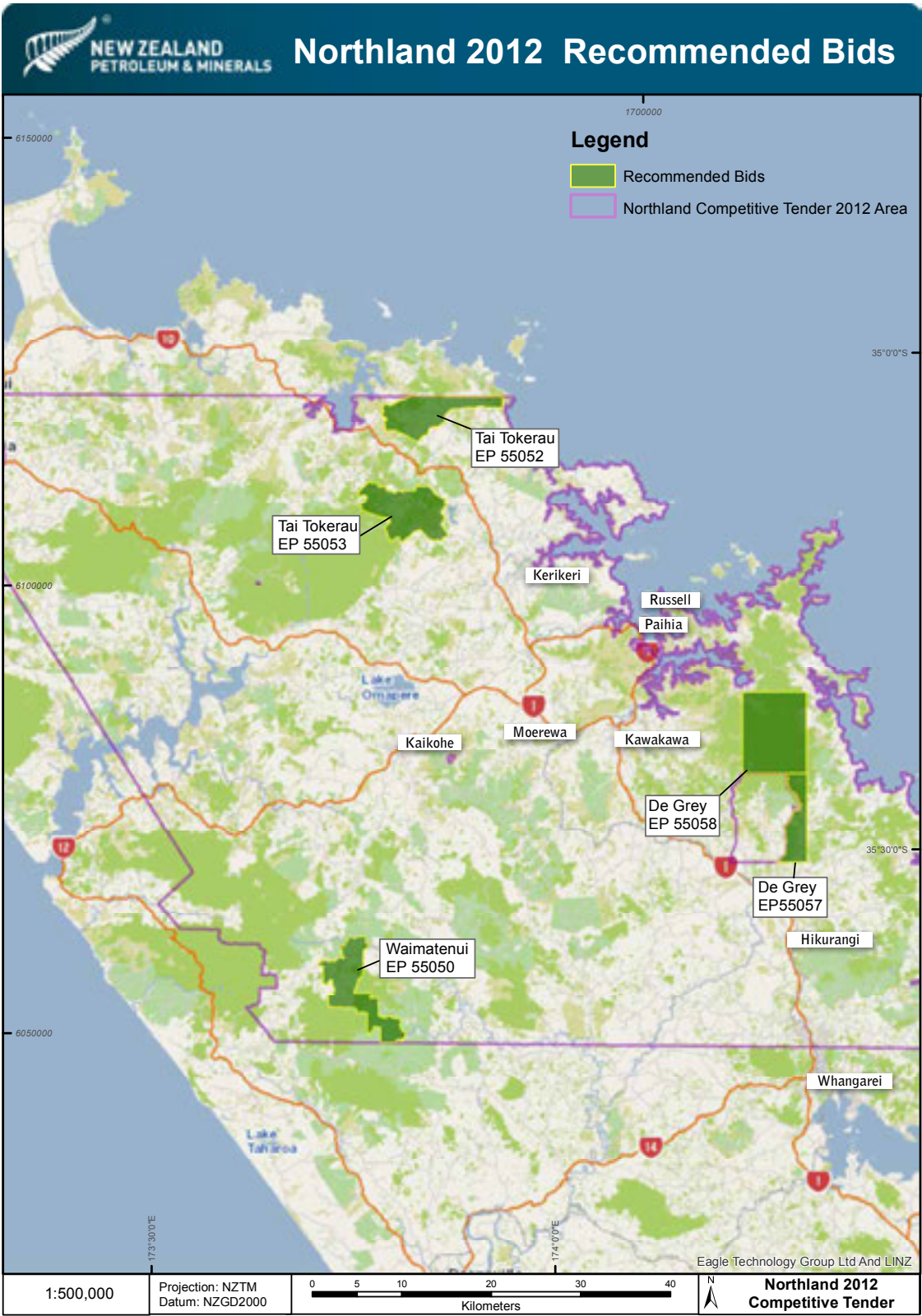


Northland Minerals Ltd (owned by Coromandel Gold Ltd which has New Zealand and Bermuda interests) has been granted a five year mineral exploration permit over 1188 hectares at Parakao/Pekapekarau [Permit number: 53706].

Hauraki Gold Ltd (owned by Canadian interests) has been granted a five year exploration permit over 2026 hectares that includes Kauri Mountain close to Mt Manaia and the Whangarei Heads [Permit number: 54783].



Note: For the 2012 recommended mineral exploration permits, “The parties now have to clarify the exact ownership of the minerals and when they have done so the permits will officially be granted”.⁵³



53 Phelps, Karen, September 2013. Northland Eyes Mineral Wealth, Business News.

MANA WHENUA/MANA MOANA ISSUES:

Ngapuhi are still moving through phases of Treaty hearings. Settlements are still uncertain. The unconsented and marketing of Te Tai Tokerau⁵⁴ to international mining companies and issuing exploration permits which may lead to mining is widely seen as creating contemporary grievances and new Government and corporate tactics to undermine mana whenua in a wave of resource grabs.⁵⁵

Kaumatua of Whangaroa in 2006 and Ngati Hau in 2013⁵⁶ have already made it clear that these rohe are closed to forms of mining that create toxic waste, citing mana whenua under He Wakaputanga and Te Tiriti o Waitangi.

Te Kapotai hapu had told Government officials they wanted Russell State Forest excluded from the aerial mineral exploration survey and were refused.⁵⁷ Unresolved Treaty claims overlap this native forest.

The Minerals Programme outlines that consultation principles means 'The Crown will act reasonably and in utmost good faith towards its Treaty partner'. Already the behaviour of the Crown representatives over Northland minerals seem to contradict their own consultation rules.⁵⁸

In every location where gold, silver and mercury are found in the highest concentrations in Northland, hapu and local communities have expressed their opposition to exploration and forms of mining that creates toxic waste. In every case these considered positions and expressions of mana whenua have been ignored and the Government has proceeded with recommending exploration permits be awarded.



Ngati Hau resistance to exploration permits has seen a protest presence on the corner of Puhipuhi Rd and State Highway 10 for most of 2013, initiated by kuia Rev Thelma Connor

NATURE OF ACTIVITY:

'Exploration' allows a broad range of activities and can include clearing native bush and drilling core samples through mercury-laden clays and aquifers.

The mining phase involves tunnelling or opencast mining methods. In both cases there are issues with water and land pollutants and toxic waste storage.

ENVIRONMENTAL IMPACTS:

There are two types of mining for the kind of rock that contains gold, silver and copper:

* "open cast" which is digging a giant hole which could literally mean moving mountains, agricultural land, destroying native forests. This has happened to Pukewa at Waihi for Newmont Gold's Martha Mine.⁵⁹

* "underground", building large underground tunnels and then trucking out the rock to be processed on site or at a processing plant further away.

Regardless of tunnelling or open cast mining techniques, both methods create toxic waste. Some argue that tunnels could be back-filled with toxic waste. But when the rock has been crushed to dust, mixed with cyanide and water, the volume has dramatically increased and wouldn't fit.

Hard rock mining can have short term problems like localised cyanide spills or long-lasting water pollution through acid mine drainage. This happens when copper, lead, zinc, cadmium and arsenic leaches out when water contacts the exposed rock in mine workings or tailings. This pollution is very serious and can be a problem that remains long after a mine is abandoned.⁶⁰

Both the Tui and Golden Cross mines in Coromandel have had issues well after they were closed. The Golden Cross Mine at Waitekauri was abandoned because the tailings dam storing toxic waste at the top of the valley started to move. On Mt Te Aroha, 90,000 cubic metres of toxic waste from the Tui Mine, (which was abandoned in 1970 when the mining company went bankrupt) cost taxpayers \$22.5 million to stabilise.⁶¹

54 http://www.northlandinc.co.nz/images/uploads/Explore_Northland_Minerals_Information_Memorandum_%28final%29.pdf.

55 http://www.nzherald.co.nz/northern-advocate/news/article.cfm?c_id=1503450&objectid=11066684.

56 <http://www.scoop.co.nz/stories/P01304/S00074/hapu-tell-mining-exploration-company-to-relinquish-permits.htm>.

57 Te Kapotai – Submission on Proposed Minerals Competitive Tender, 28 March 2012.

58 See pages 17-20: <http://www.med.govt.nz/sectors-industries/natural-resources/pdf-docs-library/oil-and-gas/crown-minerals-act-review/minerals-programme-2013-web.pdf>.

59 http://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c_id=1503343&objectid=11070741.

60 <http://watchdog.org.nz/info/minings-toxic-legacy/>.

61 <http://www.mfe.govt.nz/issues/managing-environmental-risks/remediation/tui.html>; and <http://www.beehive.govt.nz/release/225-million-tui-mine-clean-complete>.

There have been large scale problems here and overseas when waste has been dumped⁶² or tailings dams have collapsed⁶³ and have contaminated agricultural land, conservation, rivers and marine areas. This has impacts on the food chain, economics and ecology.

Gold found in Northland's epithermal deposits are in hard rock that is sometimes very deep. To extract gold and silver, the rock needs to be crushed to dust and mixed with water and cyanide.⁶⁴ The cyanide brings out the gold and silver so it can be removed. But the bigger danger comes from cyanide bringing out the other heavy metals like mercury, zinc, cadmium and arsenic and makes them 'bio-available'.⁶⁵ That means instead of being safely trapped in the rock, mercury and other heavy metals have changed form to now be able to be taken up by plants and animals and bio-accumulate. The toxic waste is usually stored in giant dams called 'tailings dams' near to the mine itself to cut down on transportation costs. Conservatively, 18 tonnes of toxic waste is produced to make one gold ring.⁶⁶ Due to the proximity of Northland's gold deposits to the sea, the seriousness of risks must be carefully considered.

The Puhipuhi mercury and silver mines which were operational over decades were abandoned by the end of World War II. There is strong anecdotal evidence from Ngati Hau to suggest that the toxic tailings from the ex-mercury mine at Puhipuhi escaped into waterways and had extremely negative health impacts on whanau members who lived downstream.⁶⁷ The workers at the mercury mine also reported extremely bad health.⁶⁸



© Kristi Henare

Mercury is highly toxic and can cause permanent damage to the nervous system, including impaired vision, hearing and coordination. The harmful effects can be transferred from a mother to her unborn child.⁶⁹

The presence of mercury in the environment is a global problem, as mercury can readily enter and be widely transported through the atmosphere, oceans and the foodchain. It accumulates in the food chain, and consuming food with mercury in it is a major source of exposure to mercury for both people and some animals.

In October 2013 the New Zealand Government signed the Minamata Convention on Mercury⁷⁰ which should result in areas that have been previously mined, with mercury released and with no records kept, be treated and managed as contaminated sites.^{71 72}

Locals of Puhipuhi and Whakapara have already seen what toxic tailings can do when a small amount was excavated by the council and used in roading metal, after rain the mercury had killed vegetation nearby.⁷³

Ngati Hau are investigating tuna aquaculture with local farmers.⁷⁴ If the Government overrides their position, in favour of the mining of Puhipuhi it could result in the contamination of clean water they all need for economic wellbeing and manaakitanga. The same could be said of marine projects within the Whangaroa rohe.

Ngatiwai hapu, Te Uri o Hīkīhiki and Te Whanau Whero have been working with Forest and Bird towards marine protection at Mimiwhangata for a decade.⁷⁵ Contamination upstream within the catchment on Puhipuhi could destroy the fruits of this work.

62 http://www.earthworkSACTION.org/files/publications/Troubled-Waters_FINAL.pdf.

63 <http://www.wise-uranium.org/mdaf.html>.

64 http://en.wikipedia.org/wiki/Heap_leaching.

65 Catherine Delahunty personal comments, 27 March 2013.

66 http://www.nodirtygold.org/pubs/20TonsMemo_FINAL.pdf. Conversion of US 20 short tons to metric = 18.14 tonnes.

67 Dr Benjamin Pittman, Ngati Hau, personal comments, 12 June 2013.

68 <http://www.doc.govt.nz/publications/conservation/historic/by-region/northland/puhipuhi-mercury-mine-history-and-site-description/>.

69 <http://www.mfe.govt.nz/laws/meas/negotiations-on-mercury-agreement.html>

70 http://en.wikipedia.org/wiki/Minamata_Convention_on_Mercury

71 Cause to Pull Permits seen: http://www.nzherald.co.nz/northern-advocate/news/article.cfm?c_id=1503450&objectid=11138901

72 <http://www.scoop.co.nz/stories/AK1310/S01028/minnamata-convention-on-contaminated-sites-in-northland.htm>

73 <http://puhipuhi.co.nz/mercury-in-puhipuhi>.

74 <http://www.maoritellevision.com/news/national/eel-farming-environmentally-sustainable>.

75 <http://forestandbird.org.nz/campaigns/we-love-marine-reserves/mimiwhangata-marine-reserve-proposal>.



WATER ISSUES:

The different mineral exploration licences are in catchments that run into:

- Whangaroa Harbour/Matauri Bay (all Tai Tokerau Minerals Ltd permits)
- Bay of Islands/Waikare Inlet, Whangaruru Harbour/Helena Bay/Mimiwhangata (all De Grey Mining Ltd's permits) and Tutukaka Coast (Hauraki Gold Ltd)
- Kaipara Harbour (De Grey Mining Ltd, Ihi Resources Ltd, Northland Minerals Ltd and Waimatenui Exploration Ltd's permits)

Water that runs from Puhipuhi's eastern catchment moves across the Hikurangi Swamp and into the Kaipara Harbour.



Kaipara Harbour is the source of 98% of snapper from the eastern side of the North Island⁷⁶ as well as being a spawning site for mullet, flounder, kahawai, rays, sharks and other species.

Both Northland mountains with the most known gold beneath - Puhipuhi and Whakarara - are also well known for their extreme flood events.⁷⁷ Global climate change is expected to fuel more extreme weather events in future.

Nearly every year flood events see water gush down from Puhipuhi to flood State Highway One at Whakapara and inundate over 5000 hectares of the Hikurangi Swamp⁷⁸ which produces \$64 million annually in dairy.⁷⁹ If poisonous waste is carried by the floods because of leaking toxic waste or a dam burst, the results would be catastrophic environmentally and economically.

Similar can be said of heavy rainfall on Te Huia and Whakarara. Sometimes several times each year the Kaeo River floods,⁸⁰ land slides, and a clean up begins. Much of this water rushes to Whangaroa Harbour. Whangaroa Harbour already has naturally occurring mercury and other heavy metals that have been trapped in sediments due to prevention of natural flushing by oyster farms at the Kaeo River mouth.⁸¹

In a worst case scenario, events like this could see cyanide poisoning have a short-term yet deadly impact, but mixed with heavy metal contamination from mine tailings and the impact is more serious for the short, medium and very long term.

There remain ongoing issues with underground waterways that could carry contamination to unknown destinations through time. Water that runs from Puhipuhi to the Kaipara Harbour moves through small remnants of the Hikurangi Swamp, habitat of endangered tuna/eel, mudfish, nationally vulnerable heart-leaved kohuhu (*Pittosporum obcordatum*) and the endemic Nationally Critical threatened Hikurangi Swamp koromiko (*Hebe aff. bishopiana*).⁸²

Gold mining also uses large volumes of water. Average international reporting has shown gold mines using 6,596,833m³ of water per year.⁸³

⁷⁶ <http://www.niwa.co.nz/news/baby-snapper-all-grew-one-big-nursery>.

⁷⁷ <http://puhipuhi.co.nz/rain-and-floods/>.

⁷⁸ <http://www.nrc.govt.nz/upload/6081/Hydrology%20pdf%20final.pdf>.

⁷⁹ http://www.nzherald.co.nz/northern-advocate/rural/news/article.cfm?c_id=1503445&objectid=11049503.

⁸⁰ <http://en.wikipedia.org/wiki/Kaeo>.

⁸¹ Bryce Smith, Ngati Kahu ki Whangaroa, personal comments, 30 Sept 2013.

⁸² <http://doc.govt.nz/Documents/science-and-technical/nztcs3entire.pdf>.

⁸³ Data from Gavin Mudd used in: Mudd, G. 2007. Global trends in gold mining: Towards quantifying environmental and resource sustainability? Resources Policy 32:42-56.

IMPACT ON CONSERVATION AREAS:

Exploration permit areas cover land designated as protected under the Department of Conservation. These areas include:

- Around 100 hectares of eastern Puketi Forest.
- Parts of Scenic Reserves and Conservation Areas in Whangaroa.
- 6,500 ha of Russell State Forest which was protected for the purpose of kauri regeneration. Kauri in Russell State Forest are now under threat from kauri PTA dieback,⁸⁴ a deadly disease transmitted via soil. On site core sampling and other exploration methods could exacerbate the spread of this disease. Mining and associated roading would be worse and destroy parts of the forest.
- A section of Marlborough Forest.

Whangaroa conservation areas are likely to include a tree and shrub only found in Whangaroa (*Pseudopanax gilliesii* and *Coprosma* "whangaroa") and threatened species of Northland brown kiwi, pupuangi/kauri snail, kukupa and Northland green gecko.

Russell State Forest is the habitat of a broad range of forest bird, plant, lizard and insect species. Some species living there are now rare or endangered, such as para/king fern.⁸⁵ This forest forms the headwaters of catchments that meet the sea via ecologically important wetlands at Karetu and Waikare.⁸⁶

Kauri Mountain is home to lots of kiwi which are protected by a community trapping programme.⁸⁷ There are significant populations of green gecko, forest gecko and Pacific gecko which are rarely found together. The endemic Whangarei Heads Daisy (*Celmisia graminifolia*) is also present.

It should be noted that when former Minister of Energy and Resources, Gerry Brownlee told reporters in 2010 that although some Northland aerial surveys would take place over Department of Conservation managed land, he promised that the kauri forests of Northland would remain untouched by mining.⁸⁸

WAHI TAPU ISSUES:

Whangaroa, Puhipuhi and possibly in other exploration areas.

ECONOMICS:

End use:

Global gold use for the year 2011-2012⁸⁹ is as follows:

- 43% Jewellery
- 35% Investment: gold bar, coins/medals etc
- 12.4% Official sector purchases
- 8.4% electronics and industrial
- 0.08% Dentistry

US Government records estimate that 'of an estimated 157,000 t of gold mined historically through 2008, 133,000 t of gold remains in circulation, with 28,700 t held by central banks as official stocks and 104,000 t held privately as bullion, coin, and jewellery'. Most gold ever mined (85%) is still in use and is recycled when necessary.

Only '15% of all gold ever mined was employed in dissipative industrial uses or was unaccounted for or unrecoverable'.⁹⁰

Peak Gold

One corporate assessment suggests that the world reached peak gold in the early 2000's.⁹¹ That means all the easily recoverable gold is gone and companies will be looking at more extreme and dangerous places to extract the metal.

LOCAL BENEFITS RETURNED

Ministry of Economic Development statistics show that all royalties from gold mining are minimal. In 2007 royalties for gold mining for the whole country stood at \$956,998. Comparatively, from 2004-2007, the New Zealand DOC estate returned \$22.5 billion to the national economy. For a local comparison, the marine reserve at Leigh annually contributes \$18.6 million per year in Rodney.⁹²

⁸⁴ <http://www.mpi.govt.nz/news-resources/news/action-needed-to-protect-kauri-forests>.

⁸⁵ <http://www.doc.govt.nz/documents/science-and-technical/thrplantsnorthlandentire.pdf>.

⁸⁶ 'Fauna values within such a large forest tract are predictably very high, there being a generally accepted correlation between habitat size and the number of species which are found within it. This may also be due in part to the great range of altitudes, topography, and physical situations found within the forest.' See: <http://www.doc.govt.nz/documents/conservation/land-and-freshwater/land/whangaruru-ecological-district/whangaruru-ecological-district-level-1-sites-p05-057-q05-004.pdf>

⁸⁷ <http://www.landcare.org.nz/Landcare-Community/Whangarei-Heads-Landcare-Forum>

⁸⁸ <http://www.nzherald.co.nz/nz/news/article.cfm?id=1&objectid=10660031>.

⁸⁹ http://www.gold.org/investment/statistics/demand_and_supply_statistics/.

⁹⁰ <http://minerals.usgs.gov/minerals/pubs/commodity/gold/myb1-2008-gold.pdf>.

⁹¹ <http://www.telegraph.co.uk/finance/newsbysector/industry/mining/6546579/Barrick-shuts-hedge-book-as-world-gold-supply-runs-out.html>.

⁹² http://www.marinenz.org.nz/index.php/the_science/marine_reserves_mpa_networks/Highlight%20reports%20and%20research%20that%20outline%20economic%20spin-offs%20from%20marine%20protection.

EMPLOYMENT

Gold mining interests frequently overstate their economic and employment importance. Coromandel Watchdog has pointed out that Waihi has roughly the same population as neighbouring Paeroa, but has double the number of people on welfare benefits. The organisation goes on to point out that Waihi has a social deprivation index of 10, which means this mining town has the highest possible level of deprivation and poverty.

A broad diversity of jobs are filled by fly-in-fly-out employees in the Australasian mining industry.⁹³ There are no guarantees of local jobs.

Unlike many other industries, going ahead with toxic hard rock gold mining undermines other land and water uses and income generation in the area or puts them under threat for long periods of time.



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OTHER ISSUES:

Energy consumption:

A significant new energy source would be required to power hard rock mining operations.

Regulation & conflicts of interest:

Government officials and some local Northland politicians have claimed that all mining applications would be subject to 'strict' requirements.⁹⁴ But recent changes to mining laws (the Crown Minerals Amendment Act 2013) have been changed to strengthen the corporate 'rights' of mining companies and relax their environmental responsibilities. The purpose of new mining laws are to 'promote prospecting for, exploration for, and mining of Crown owned minerals for the benefit of New Zealand'.⁹⁵

The Resource Management Act which covers discharges to water from mining operations is also undergoing extreme changes aimed to lower protections from pollution and favour fast-tracking industrial projects.⁹⁶ Can companies build dams strong enough to last longer than the Egyptian pyramids to keep this toxic waste safe in the long term and pay for their upkeep for that length of time?

Conflicts of interest have also been cited of ex-Far North Mayor Wayne Brown who was paid as Mayor and for a public role to champion mining as Chairman of the Explore Northland Minerals Group⁹⁷ and is a co-director of Tai Tokerau Minerals Ltd which have two exploration permits and two extensions being processed.⁹⁸ During the local body elections in 2013, Wayne Brown increased his shareholding in Tai Tokerau Minerals Ltd to one third of the company.

93 <http://www.miningoilandgasjobs.com/jobs/fly-in-fly-out/>.

94 http://www.nzpm.govt.nz/cms/news_media/2012/interest-in-northland-metallic-minerals-exploration-invited.

95 <http://www.legislation.govt.nz/act/public/2013/0014/latest/DLM4756123.html>.

96 <http://www.eco.org.nz/uploads/ECOLink/ECOLink%20May%202013.pdf>.

97 <http://www.enterprisenorthland.co.nz/projects/entry/explore-northland-minerals>.

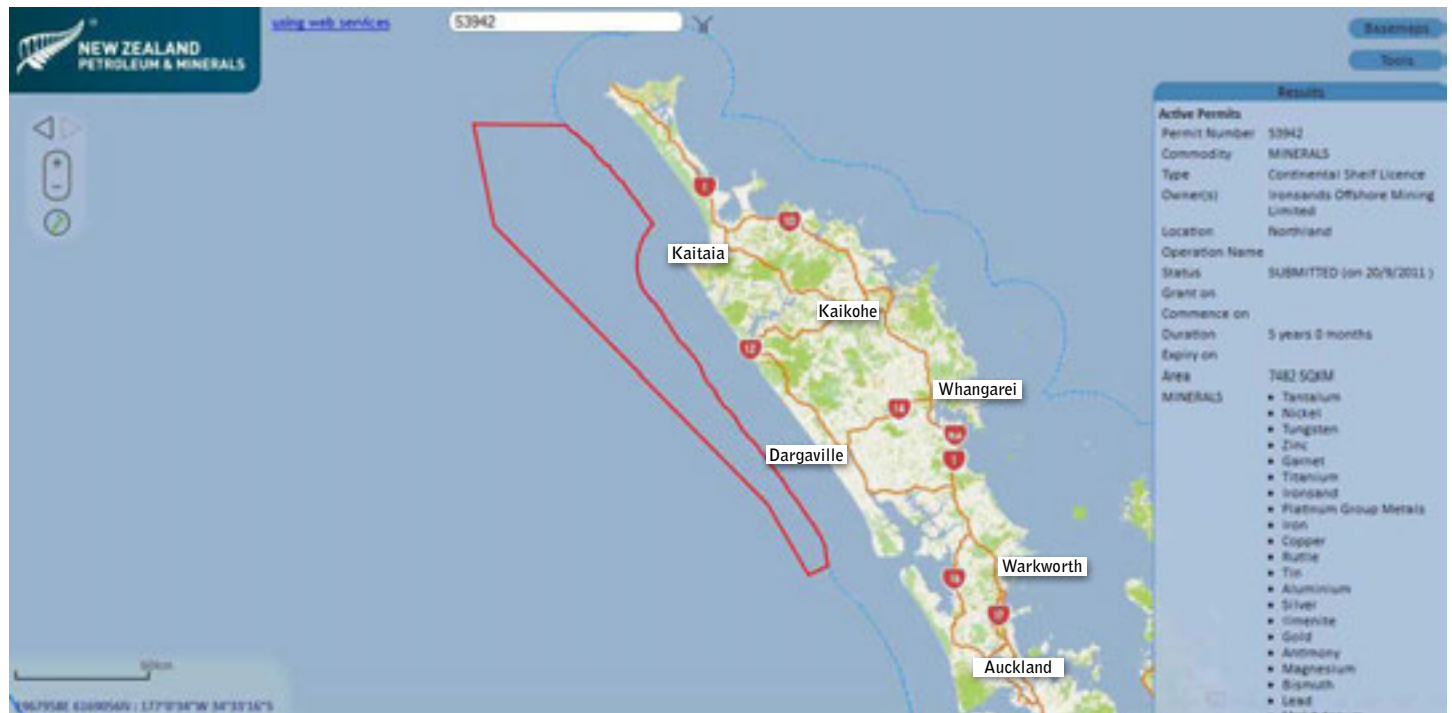
98 http://www.nzpm.govt.nz/cms/news_media/2013/minerals-exploration-will-boost-northland-economy/view.



Seabed Mining/Mega Dredging

TARGET AREAS:

Along the west coast of Northland and Parengarenga Harbour.



NATURE OF ACTIVITY:

Ironsand mega dredging:

Involves a remote controlled seabed crawling machine⁹⁹ or high power trailing suction dredge to vacuum sand from the seabed up to a dredge boat. Another factory vessel uses gravity and magnets to separate minerals and metals from the remaining sand. What is not wanted (around 90%) is dumped back into the sea.¹⁰⁰ Most of the 10% taken would be directly exported to international markets.

A large prospecting permit covering 7482 square kilometres was submitted in 2011 by Ironsands Offshore Mining Ltd. It targets iron, gold, titanium, nickel and rare earth minerals. The area is west of the 12 nautical mile boundary line and stretches off Northland's west coast between Te Rerenga Wairua and the Kaipara Harbour mouth.

Ironsands Offshore Mining Ltd is a subsidiary of Cass Offshore Minerals. The company has permits granted around coastal Taranaki, Waihi and along the West Coast of the South Island.¹⁰¹ It is not clear what extraction volumes Ironsands Offshore Mining Ltd are aiming for.

Silica sand dredging:

For many years the high purity silica sands of Parengarenga Harbour were dredged from the harbour entrance for glass production. The mouth of Parengarenga Harbour continues to have a live permit, having been granted to ACI Operations NZ in 1999 until it expires in 2021. However, there has been no dredging for some years now.

⁹⁹ More Mining Details Revealed: http://www.nzherald.co.nz/wanganui-chronicle/news/article.cfm?c_id=1503426&objectid=11135989

¹⁰⁰ <http://kasm.org.nz/seabed-mining/what-is-seabed-mining/>.

¹⁰¹ http://iom.co.nz/index.php?option=com_content&view=article&id=156&Itemid=33.

MANA WHENUA/MANA MOANA ISSUES:

Ngati Kuri and Te Aupouri are seeking in their Historical Land Claim Deeds of Settlement to protect Parengarenga Harbour and Te Rerenga Wairua. Dredging of Parengarenga Harbour has historically been highly controversial.

ENVIRONMENTAL IMPACTS:

The first mega dredging application to mine the seabed has been lodged with the Environmental Protection Agency (EPA) by Trans Tasman Resources (TTR) for a vast area off Patea in South Taranaki. The four week submission period is likely to run from mid November to mid December.

The sheer volume of sand being targeted has people of the West Coast very concerned. With this first application, TTR are aiming to export 3-5 million tonnes of concentrated iron ore per year for 20 years. That means they would displace and process 30-50 million tonnes of material per year from the seafloor. Cuts would be 10-20 metres in depth.

These volumes relate to just this one operation. If the industry gains a foothold it is reasonable to expect more applications to follow.

Concerns have been raised over impacts on lifecycles of marine life, especially if juvenile fish or eggs are destroyed over a large area. Questions have been asked as to what impacts that would have on fishing. Any marine life sucked up is unlikely to survive the process. When the unwanted sand is released back, plumes of sand could have a smothering effect on surrounding marine life.

The removal of vast quantities of sand could cause coastal erosion to farmland and change patterns of sand replenishment on beaches. Surfers are concerned that surf breaks could disappear.

ECONOMIC CONSIDERATIONS:

Most ilmenite is mined for titanium dioxide production. Finely ground titanium dioxide is a bright white powder widely used as a base pigment in paint, paper and plastics.¹⁰² Iron ore is the major component in steel-making, and titanium and

vanadium can be extracted from iron sand as valuable by-products including aviation, military/war equipment and medical devices.¹⁰³

WAHI TAPU

There may be a possibility that coastal urupa could be at risk as sand is extracted further out causing erosion in coastal areas.

EMPLOYMENT BENEFITS:

It is unclear what kind of economic impacts on commercial fishing and kaimoana might occur. Speculation is that west coast iron sands alone are worth billions or trillions of dollars.¹⁰⁴ Even so, it is unlikely that many local jobs will directly be created,¹⁰⁵ and the Government royalties and tax regime will see the lion's share of the money go offshore.

Political Landscape

Ironsands Offshore Mining Ltd's directors (international commodity traders in gold and iron ore¹⁰⁶) are strategically positioning themselves as 'owners' of seabed minerals in some of the most mineral rich sands around the country.¹⁰⁷ The Company says it has backing through Investment New Zealand and New Zealand Trade and Enterprise¹⁰⁸ which implements the Ministry of Business, Innovation and Employment's 'Business Growth Agenda'.¹⁰⁹ Basically, the Ministry is encouraging mining, drilling and foreign 'investment' under the banner that: 'New Zealand's stable economy and political system, reputation for innovation and the ease of doing business make it an attractive place to invest'.¹¹⁰

They put it like this: 'Ironsand deposits located along 480 kilometres of coastline on the west coast of the North Island are among the largest known placer resources (shoal, or alluvial / sand deposit) in the world. These deposits are attracting growing international interest with increased permit activity and development plans in recent years'.¹¹¹

"Quietly, and for the most part out of the public gaze, some really big names are already here, and they are very serious about the potential in our iron sands," says John Kidd, of brokers McDouall Stuart.¹¹²

¹⁰² <http://en.wikipedia.org/wiki/Ilmenite>.

¹⁰³ <http://www.ttrl.co.nz/assets/Documents/41900-TTR-Presentation-Book-Update-Jan-13-new-map.pdf>.

¹⁰⁴ <http://www.nbr.co.nz/article/ironsand-could-produce-trillion-dollar-profit-elder-nn-86366>.

¹⁰⁵ Seabed mining: Buried treasure, or fool's gold? http://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=10829768.

¹⁰⁶ http://iom.co.nz/index.php?option=com_content&view=article&id=159&Itemid=118

¹⁰⁷ http://cassom.com/index.php?option=com_content&view=article&id=176&Itemid=100.

¹⁰⁸ <http://www.nzte.govt.nz/en/about-us/>.

¹⁰⁹ <http://www.mbie.govt.nz/what-we-do/business-growth-agenda>.

¹¹⁰ <http://www.nzte.govt.nz/en/invest/>.

¹¹¹ <http://www.nzte.govt.nz/en/invest/sectors-of-opportunity/petroleum-and-minerals/>.

¹¹² <http://www.stuff.co.nz/business/2837991/Global-giants-eye-7-billion-Kiwi-bonanza>



Swamp Kauri

TARGET AREAS:

Near Dargaville, Kaimaumau Swamp, Lake Ngatu, Pukepoto/Kaitaia and other small dune lake wetland remnants, rivers and lake beds (eg Lake Omapere).

NATURE OF ACTIVITY:

Swamp kauri has been excavated and crafted into different products over many years. Fuelled by a 'gold rush' mentality over the past decade driven by high prices for the limited resource, industrial swamp kauri mining has been widespread in the dunes and wetlands of the Te Hiku Peninsula and has continued unabated despite many aspects being legally dubious.¹¹³ The Ministry of Primary Industry has failed to stop the illegal export of swamp kauri logs and timber. To access swamp kauri, wetlands are usually drained and logs excavated.

MANA WHENUA/MANA MOANA ISSUES:

Local hapu and iwi of Te Hiku have voiced opposition regarding extraction at Kaimaumau Swamp, Landcorp farm sites near Kaitaia and other locations. Some of these targeted areas have been included as assets for return under recently signed historical Treaty Settlements with the Crown.

ENVIRONMENTAL IMPACTS:

The damage of extracting swamp kauri itself is localised but with a large and long term impact on endangered habitat types and threatened species. The Te Hiku peninsula dune wetlands are the last remnants of extensive habitats that have now been wiped out. In particular, Kaimaumau Swamp provides the last home of birds, plants and a gecko species that are threatened with extinction and some areas have a high level of protection as a Scientific Reserve. This wetland is important on an international scale due to less than 5% of wetlands surviving in the North Island.¹¹⁴ A 2011 report analysing Northland's Top Wetlands says of Kaimaumau Swamp, 'The outstanding natural values of this site include 12 "Threatened" species, 14 "At Risk" species, and four regionally significant species'. It scored overall as the second-most significant wetland in Northland.¹¹⁵

WATER ISSUES:

Lake Ngatu is now contaminated by water flow that has changed the natural acidity of the water. At Kaimaumau Swamp an extensive drain along southern portion of the wetland was illegally excavated by Far North District Council in 2012 to benefit neighbouring landowners. This has lowered the water table and drained Kaimaumau Swamp.¹¹⁶ On other boundaries, drains are lowering the watertable and drying out and degrading the wetland.



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WAHI TAPU ISSUES:

Many and varied, depending on location.

ECONOMIC ISSUES:

The majority of swamp kauri removed is exported as raw logs, stumps and unfinished products to China and Japan.¹¹⁷ A small proportion is made into clocks and other items by local craftspeople.

EMPLOYMENT:

The greatest employment potential would be found in adding value to swamp kauri before distribution to the marketplace. However, vast amounts have been illegally exported as logs or timber.

¹¹³ http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10864574.

¹¹⁴ <http://www.mfe.govt.nz/publications/ser/enz07-dec07/html/chapter12-biodiversity/page3.html>.

¹¹⁵ <http://www.nrc.govt.nz/upload/1695/2489%20Northlands%20top%20wetlands.pdf>.

¹¹⁶ Allen, John M., 2012. Wetland Destruction, Motutangi Stream, NZ Watermelon Distributors Ltd Property.

¹¹⁷ http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10805475; and http://www.nzherald.co.nz/northern-advocate/news/article.cfm?c_id=1503450&objectid=11052197.



What you can do:

Sometimes people feel overwhelmed with all these threats. But there's a lot you can do to turn things around. We are all part of the answers.

One of the greatest current examples is state highway 35 from Opotiki to East Cape and down to Gisborne. There is no way anyone travelling along here could escape the fact that deep sea oil is a huge and unpopular issue for that region because the whole 353 kilometres have signs opposing Petrobras and deep sea oil drilling.

It works! Let's see if te Tai Tokerau can do better, get the message out on gates, fences, cars, letterboxes.

If you are a landowner in mineral exploration permit areas you are in a stronger position than anyone else. Representatives from exploration companies will be knocking on doors around and you may have been visited by one. They will be seeking to negotiate access arrangements across private property to areas they want to sample for minerals and onto private and public land to drill.

It is your right to deny access onto and through your land. Denying access can help prevent mining in the future.

Companies want permission and access to carry out 'mineral exploration' on private and public land. This could come in many different forms from taking rock and soil samples on the surface, to drilling out 500 metre long core samples, and clearing areas of bush to get machinery in to do seismic testing.

If a representative knocks on your door you can tell them that your land is not for mining and not for toxic waste. That you want to keep clean water for yourself and everyone else downstream and you want people upstream to protect the water supply too. Exploration that leads to mining will not achieve this.

You could say you refuse access and permission to drill on your land, or diagonal drilling under your land from a neighbouring area. Also, that you don't want trucks and heavy machinery, explosions and night lights disturbing you.

The reason a company representative would want to talk to you is also to gain access across land, usually to drill core samples to find out the depth and density of gold, silver, copper etc. If an access agreement is signed with an exploration company it stays on the land title, even if the land is sold. When the company on-sells their exploration permit, they are also onselling the access agreement across the land. Also keep in mind that if a company has an access agreement to a place they want to drill core samples, they also can and often do drill diagonally under neighbouring land.

Drilling core samples can be dangerous in itself because in Northland where there is gold, there is mercury. Puhipuhi and Te Huia/Whakarara have two of the largest mercury deposits in the country beneath them. Underground streams that surface as springs can be contaminated in the process of drilling core samples

If you do have a conversation with a company representative make sure you write down what was said on both sides with the date, location and names and keep it somewhere safe. You may need this in the future.

Please act to look after land and water that we all share.

Comparing impacts of mining and drilling*

| | Tech & general complexity | Hapu / Iwi opposition | Effects- dry land | Effects- Freshwater |
|--|---------------------------|-----------------------|-------------------|---------------------|
| Quarrying [roading aggregate/limestone/clay] | Low | Low | Low | Low |
| Geothermal Energy [Ngawha] | Medium | Medium | Low | Low |
| Inshore Oil Drilling | Medium | High | Low | Low |
| Sand/Seabed Mining [incl mega-dredging] | Low | Medium | Medium | Low |
| Swamp Kauri | Medium | Medium | Low | High |
| Fracking [in coal seams] | High | High | High | High |
| Toxic Hard Rock Mining [gold, silver, copper, metals] | High | High | High | High |
| Deep Sea Oil Drilling | High | High | Low | Low |

*For discussion purposes only

| Effects- Marine Life | Carbon Emissions | Little economic Return to communtiy | Wahi tapu affected | Affected Human Rights | Political Issues |
|-------------------------|---------------------|--|-----------------------|-----------------------------|---------------------|
| Low | Low | Low | Medium | Low | Low |
| Low | Low | Low | High | Low | Medium |
| Low | High | Low | Medium | Medium | Medium |
| Medium | Low | High | High | Medium | Medium |
| Low | Medium | Medium | High | High | High |
| Low | Medium | High | Medium | High | High |
| Medium | Low | High | High | High | High |
| High | Medium | High | High | High | High |

