Westland Mineral Sands - Mananui

Economic assessment of proposed mining operations

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Economic contribution

Mananui will create jobs, boost economic activity, and support diversification

- The proposed mining operation at Mananui and supporting logistics chain will generate $71m in export revenue each year. This will yield a $37.9m direct contribution to regional GDP, equivalent to a 1.8% boost to regional GDP for the West Coast.
- The operation will directly support between 65 and 70 well paid mining jobs. These include 46 jobs on site, supported by 19 to 24 additional jobs across the logistics chain in trucking and shipping.
- A local non-wage spend of $15.4m per year will indirectly support a further 65 to 69 jobs. These include support roles in engineering, metallurgical, geotechnical, geology, maintenance, and naval architecture services.
- The total wage bill for the operation, between $6.6m - $7.6m, gives an average wage between $101,500 and $117,500 per annum across all direct jobs. This represents a strong premium (89% to 119%) over the West Coast median of $53,608 in 2022.
- Our quantified estimates of economic impact demonstrate that the proposed operation will provide a significant regional economic benefit. Mining accounted for 7.7% of the West Coast regional economy in the year to March 2022. The Mananui operation will further enhance the role of mining as a significant regional economic contributor that provides high-paying jobs.
- The addition of a barge operation, with spare capacity of 600,000 tonnes per annum, will bring further benefits to the wider mineral sector and improve economic linkages with wider New Zealand.
- The sector can play a significant role in achieving the region's strategic goals of economic diversification, adding jobs outside of the dominant tourism industry.
- The Mananui project will deliver national benefits as well as regional benefits, in terms of its role in promoting infrastructure resilience with the associated barge operation, and the royalties, business and income taxes associated with its operations.
- Furthermore, by providing secure, well paid job opportunities for New Zealanders, the Mananui operation may prevent Kiwi families leaving the country in search of mining jobs offshore, such as in Australia.

Mining plays an important economic role on the West Coast

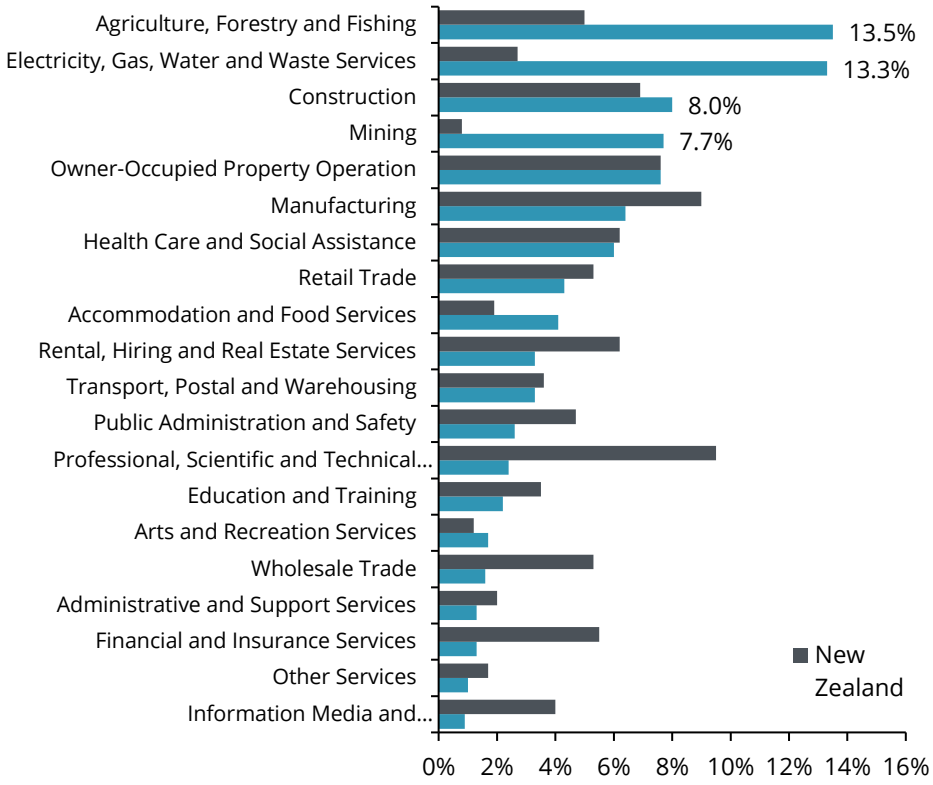
The mining sector plays a far more prominent role in the West Coast economy relative to the national economy. The sector accounts for 7.7% of the region's GDP, compared to a 0.8% contribution nationwide[1].

This ranks mining as the region's 4th largest sector, behind the primary sector (agriculture, forestry, and fishing), utilities, and construction. Nationwide, it is the smallest sector.

Mining employed 620 people in West Coast in 2022, 4.46% of total employment in the region[2]. This share of employment is substantially higher than the 0.24% share for all of New Zealand in 2022.

Median wages offered in the sector reflect this prominence. At $82,745, they are the highest median wages among all sectors on the West Coast, exceeding the region-wide median by 54%[3].

FIGURE 1: SHARE OF GDP BY SECTOR, 2022



Source: Infometrics; Sense Partners analysis

[1] Infometrics (2023) *West Coast Region economic profile*.
[2] All data on employment numbers by sector is from: Statistics New Zealand (2023) *Business Demography Statistics: Geographic Units by region and industry 2000-2022.*
[3] All data on median wages is from: Statistics New Zealand (2023) *Linked Employer-Employee Data – Annual: Table 1.6: Main earnings source, by industry (NZSIOC)*

Mananui will boost West Coast GDP by $37.9m per year

The proposed mining operation at Mananui will generate an estimated $71m each year in export revenues once fully operational. This export revenue is based on the extraction of garnet, ilmenite (a source of titanium), rare-earth metals, and small amounts of gold.

To put this in context, the entire West Coast region's goods exports amounted to $761.3m in 2022[4]. This operation represents a potential **9.3% increase total exports** for the region. Up to 300,000 tonnes of mineral sands will be extracted from the site each year. With this scale, the operation would **directly generate $37.9m in GDP each year[5]**.

Statistics New Zealand estimates West Coast GDP was $2.1bn in 2022[6]. This means the proposed operation at Mananui will provide a **1.8% boost to regional GDP**.

Westland Mineral Sands estimate that their licenses hold between 50- and 100-years' worth of supply. This indicates that the economic benefit is unlikely to be short lived and will make an enduring contribution to the West Coast.

The small amount of gold that is extracted would yield royalty payments to the Government. These are expected to be $14,000 per year.

Mananui will support up to 139 well-paid jobs on the West Coast

Employment is where the economic benefit is really felt by households on the West Coast. And it is a benefit that is sorely needed. Total employment in the region has fallen 5.6% from a high of nearly 17,634 jobs in 2012 to just under 16,647 in 2022.

The proposed mining operation at Mananui will **directly create between 65 and 70 jobs[7]** across the mining and logistics sectors. This includes an estimated 46 FTE employees on the site itself, with an additional 19 – 24 jobs in support logistics roles.

The logistic support jobs are essential to transporting extracted minerals from the site to port. Direct employment here spans the logistics chain: 5 - 6 employees in trucking, 12 - 14 employees on the barge operation, and 2 - 4 employees at Grey Port.

Most of these roles will be filled by local workers. By way of example, Westland Mineral Sands' operation at its Nine Mile site near Westport directly employs 26 workers, 22 of whom are Westport locals.[8] This implies the vast majority of the $2.4 million of wages for these Nine Mile workers will go straight into the local community.

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[4] Infometrics (2023) *Regional Economic Profile: West Coast Region.* https://ecoprofile.infometrics.co.nz/West%20Coast%20Region/Gdp/Structure

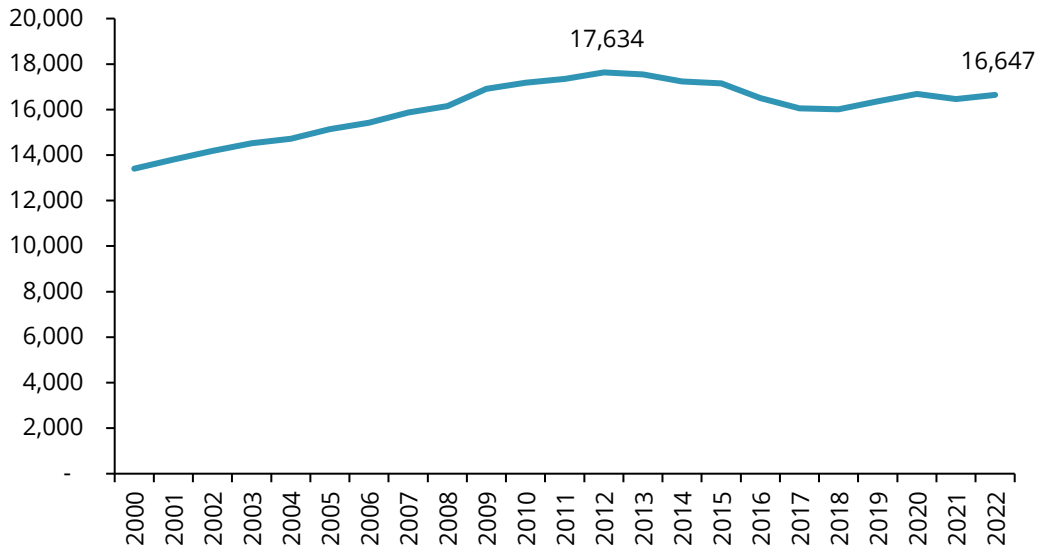
[5] We estimate this by first calculating the value-add share (%) of output for the "Metal ore and non-metallic mineral mining and quarrying" sector from Statistics New Zealand input-output tables. We then apply this to total revenue to yield an estimate of GDP contribution.

[6] Statistics New Zealand (2023) *Regional Gross Domestic Product: Gross domestic product, by region and industry (Annual-Mar).*

[7] Estimates provided by Westland Mineral Sands.

[8] Information from Westland Mineral Sands. The other four workers are from Greymouth (2), Kaikoura (relocating and buying a house in Westport), and Oxford (renting a house in Westport).

FIGURE 2: TOTAL JOBS ON THE WEST COAST



Source: Infometrics; Sense Partners analysis

620 people were employed in the mining sector on the West Coast in 2022, 4.5% of total employment in the region. This operation alone represents a **10% – 11% increase** on mining sector employment, a substantial boost to the region.

The estimated local (non-wage) spend generated by the project is $15.4m per annum[9]. This spend includes additional support services, such as high voltage electrical engineers, drilling and laboratory services, light vehicle maintenance, and cleaning services.

We estimate this spend will support **between 65 and 69 additional FTE jobs** across the region[10]. It is reasonable to expect that many of these additional jobs will be filled by those living near the mining operation (i.e. in the Westland District). The roles include occupations that may need to be called out at short notice for critical maintenance or repair jobs, and those for whom long travel times and associated travel costs would render their services uneconomic.

Mining offers high median wages, with Mananui topping these

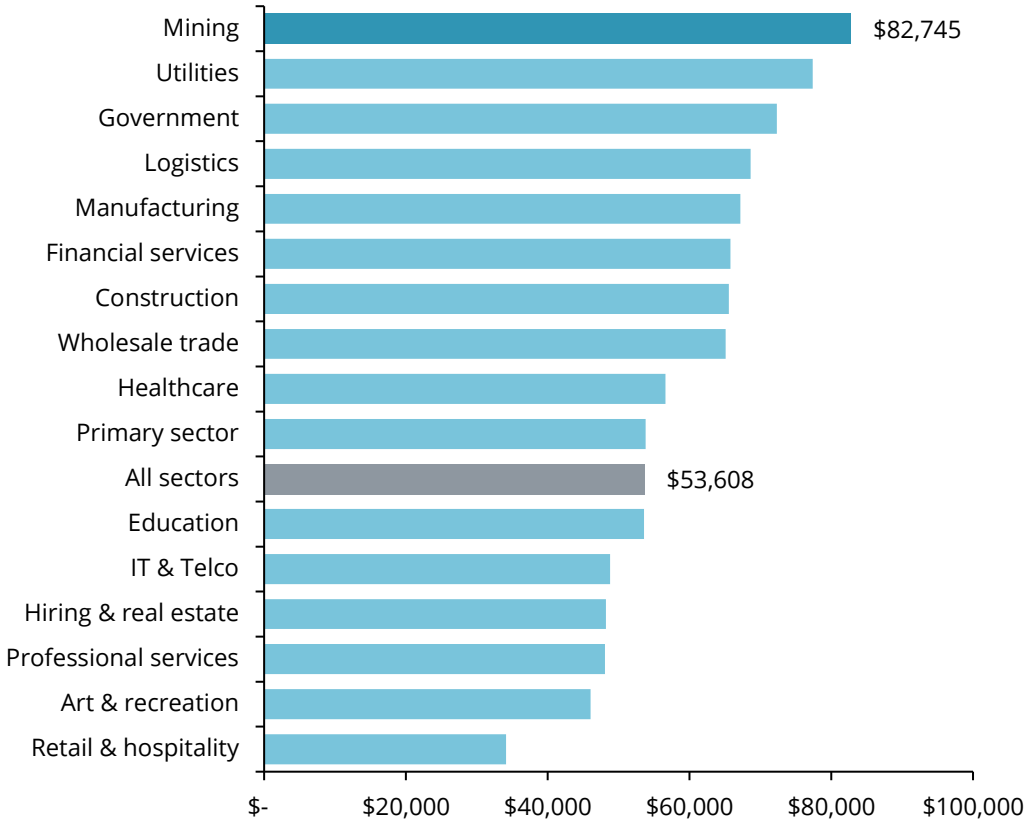
The role of the sector in employment is amplified by the higher wages on offer.

[9] Estimates provided by Westland Mineral Sands

[10] We estimate this by taking the national average cost of employment as a share of output from Statistics New Zealand input-output tables, and applying this to the non-employment spend. This gives the share of non-wage spend that will indirectly flow on to wages elsewhere. We use the average wage for West Coast, taken from Statistics New Zealand LEED data, to translate this into a jobs number.

Figure 3 below shows median wages by sector on the West Coast. Mining offered the highest median wage at $82,745 in 2022, exceeding the all-sector median by 54.4%.

FIGURE 3: WEST COAST MEDIAN EARNINGS BY SECTOR, YEAR TO JUNE 2022



Source: Statistics New Zealand; Sense Partners analysis

The total wage bill for this proposal is between $6.6m - $7.6m[11]. This yields an average wage between $101,500 and $117,500 per annum across all direct jobs. This is a substantial premium on median wages in the region - nearly double. Even the lowest salary attached to the project, $85,000, is above the sector's median income.

Progressive rehabilitation will offset impacts to farming

The proposed operation site is currently agricultural land. Extracting the mineral sand will necessarily require any agricultural activity to be suspended, and so there is a cost that needs to be accounted for.

However, this cost is likely to be temporary. Up to 80% of the material extracted is returned to the ground. The aim is to return the land to its original use once the extraction is complete, and the rehabilitation will actually occur progressively as the extraction is completed.

[11] Estimates provided by Westland Mineral Sands

We estimate, based on average dairy gross revenue per hectare of $1,250, a $141,150 reduction in annual dairy output as a result of removing 112.92ha of pastoral land[12]. This is significantly lower than expected revenue from the proposed operation.

This is also a very conservative estimate, as it assumes that the entire site is removed from dairy pasture use.

In reality, at most up to 23% of the site, including the plant area, will be in use or disturbed at any one time[13]. The remaining 77% is planned to be kept under use for dairy support. This would reduce the impact to as low as $33,000 per annum in lost output.

Mining and tourism are not mutually exclusive – we can have both

One perennial concern around mining activity is the potential impact on tourism. Many tourists are attracted to the West Coast by its natural beauty. Mining activities have the potential to impact scenic views and negatively shape tourists' perceptions of the region. This is important to consider, as tourism is a significant industry on the West Coast.

In the year to March 2019[14], 669,944 international visitors collectively spent $243m on the West Coast[15]. This is an average of $363 per visitor. With export revenue of $71m, the proposed operations will generate revenue equivalent to the spend of 195,793 tourists. This is nearly a third (29.2%) of pre covid levels. This means that, on balance, the proposed operation would outweigh any negative effect on tourism up to a 1/3rd fall in visitor activity.

It is not clear that mineral excavation on a site less than 0.005% of the region's total land area would have any meaningful impact on tourism[16]. First, due to progressive rehabilitation, only 20% of the total area will be disturbed at any given point[17]. Second, a range of mitigation measures will be put in place. This includes a series of 3m high bunds to screen the operations from SH6, and plantings along the northern edge of the site[18].

The end result is that any visual impact is assessed as being minor[19]. If tourists can't see it, they probably won't be put off by it. Given this, we expect the proposed operation will have no

[12] We estimate this using a $1,250 per hectare gross revenue estimate for dairy support land on the West Coast. This is based on an average milk pay-out. See: Ballingall, J. (2022) *Overview of the economic impacts of Barrytown mining extraction proposal*.
[13] Estimates provided by Westland Mineral Sands
[14] While travel restrictions have ended, disruptions to tourism have been persistent. In addition, most data sources on tourism come at a lag. Looking at 2019 gives the best sense of the structural role of tourism in the West Coast economy.
[15] Visitor numbers for Buller District, Grey District and Westland District, from the International Visitor Survey.
[16] Based on total West Coast land are of 2.33m ha.
[17] Estimates provided by Westland Mineral Sands
[18] Glasson Huxtable Landscape Architects Ltd (2023) *Mananui Project: Landscape and Visual Assessment of Effects*. Page 52.
[19] Glasson Huxtable Landscape Architects Ltd (2023) *Mananui Project: Landscape and Visual Assessment of Effects*. Page 59.

measurable economic impact on tourism. With the right approach, both industries can co-exist and contribute to the West Coast.

Any impact on the transport network effects is likely minor

Adding a large number of vehicle movements to the network, particularly heavy vehicle movements, could impose some costs. These would typically be looked at in terms of creating congestion, which imposes a cost on other road users.

All industries rely on an efficient transport network. Whether they are shipping finished goods, sourcing raw materials, or providing services to customers, a good transport network is key. Where there is a significant congestion impact, businesses could find it harder to access markets, workers, and inputs. This can be measured as reduction in economic productivity.

The transport assessment prepared for the proposed operation finds "acceptable and less than minor transport effects."[20] NZTA data on traffic along the SH6 route to Greymouth port indicates that the expected 70 truck movements per day represent a less than 1.1% average increase in traffic across all measurement sites along the route[21]. This is within the uncertainty bands of ±5% associated with traffic count data.

Given this, we expect it is unlikely there are any measurable negative economic impacts arising from increased traffic volumes.

Mananui presents an opportunity for economic diversification

Tourism related activities are a significant employer on the West Coast, sustaining 1,269 jobs in 2022[22]. The sector generated 8.4% of the West Coast's GDP in 2019 prior to the pandemic, over $136m[23] [24]. This is the second highest share in the country, behind only Otago (12.3%).

These related industries have borne the brunt of the Covid-19 pandemic, with tourism sector employment falling 55% between 2019 and 2022. Jobs in accommodation and hospitality were the hardest hit, losing 900 positions between 2019 and 2022. That's a 40.9% reduction.

These figures highlight that reliance on a single dominant industry can leave the region exposed to disruption. The Tai Poutini West Coast Economic Strategy 2050[25] identifies a key economic wero (challenge) as being diversification. The West Coast's competitive advantage in mining and natural resources is specifically highlighted as a priority.

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[20] Novo Group (2023) *Transport Assessment prepared for Westland Mineral Sands Co. LTD.* Page 9.
[21] Waka Kotahi NZTA (2023) *State Highway Traffic Monitoring Map*. There are several monitoring sites along the trucking route on SH6. The closest monitoring station to the Mananui site has the lowest annual average daily traffic (AADT) count at 2,428 vehicle movements. This is where the subsequent increase would be highest (2.9%), but is also where the Novo Group traffic assessment is focused.
[22] Infometrics (2023) *Regional economic profile: West Coast Region – Tourism Employment*
[23] Infometrics (2023) *Regional economic profile: West Coast Region – Tourism GDP*
[24] At the District level, tourism accounted for 22.3% of the Westland economy in 2019, 3.3% of the Grey District economy, and 2.1% of the Buller District economy.
[25] Development West Coast (2022) *Tai Poutini West Coast Economic Strategy 2050*.

A recovery in tourism will be highly beneficial to the region. Within a strategy of diversification, the mining sector offers the potential to amplify this recovery with an additional boost to employment and economic activity.

And the chance to open up new economic links with the rest of NZ

The West Coast is a potentially abundant source of high-quality aggregate in the form of river gravel and revetment rock[26]. The region's unique geography means that the replenishment rate of river deposits, at 1,800 t/km^2/year, is far higher than the world average (182 t/km^2/year) [27].

This is an example of a much-needed resource in which the West Coast has a competitive advantage. Aggregate is essential for use in road construction and in concrete for buildings. National challenges, such as creating affordable housing and closing the infrastructure deficit, depend on a reliable and economical supply of aggregate.

Much of this supply is easily extracted. However, the main barrier is transporting the aggregate to where it is needed. Demand is highest in our largest cities, and where road building activity is most intense.

Aggregate is typically transported via truck. However, this is only economic at distances less than 50km[28]. Rail can economically carry aggregate over further distances but is dependent on potentially vulnerable infrastructure links. It also cannot deliver aggregate to our largest population centres in the North Island without a maritime link.

The proposed operation at Mananui includes the establishment of a barge operation to ship the extracted mineral sands to port. This operation has an estimated capacity of 1,000,000 tonnes per year[29]. However, the extraction at Mananui and other operations will only use 400,000 tonnes, leaving excess capacity of 600,000 tonnes per annum.

Westland Mineral Sands intend to on-sell this excess capacity to other producers in the region, including for aggregate transport. This provides an added bonus to the operation – creating transport network capacity for the wider minerals sector.

[26] Brockett, D. (2004) *Feasibility of Transporting Mainland Aggregate to Auckland*. University of Canterbury.
[27] GNS Science (2010) *Mineral resource assessment of the West Coast Region, New Zealand*. GNS Science Report 2010/61.
[28] Christie, T. Thompson, B. & Braithwaite B. (2007) *Mineral Commodity Report 22 - Aggregate*
[29] Estimates provided by Westland Mineral Sands

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