

91243R



NEW ZEALAND QUALIFICATIONS AUTHORITY
MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

Level 2 Geography 2021

**91243 Apply geography concepts and skills to
demonstrate understanding of a given environment**

Credits: Four

RESOURCE BOOKLET

Refer to this booklet to answer the questions for Geography 91243.

Check that this booklet has pages 2–10 in the correct order and that none of these pages is blank.

YOU MAY KEEP THIS BOOKLET AT THE END OF THE EXAMINATION.

Relevant geographic concepts

Environments

May be natural and / or cultural. They have particular characteristics and features, which can be the result of natural and / or cultural processes. People's actions can alter the characteristics and features of the natural and / or cultural environment. The particular characteristics of an environment may be similar to and / or different from another. A cultural environment includes people and / or the built environment.

Perspectives

Ways of seeing the world that help explain differences in decisions about, responses to, and interactions with environments. Perspectives are bodies of thought, theories or worldviews that shape people's values and have built up over time. They involve people's perceptions (how they view and interpret environments) and viewpoints (what they think) about geographic issues. Perceptions and viewpoints are influenced by people's values (deeply held beliefs about what is important or desirable).

Processes

A process is a sequence of natural and / or cultural actions that shapes and changes environments, places and societies. Some examples of geographic processes include erosion, migration, desertification, and globalisation.

Patterns

May be spatial: the arrangement of features on the earth's surface; or temporal: how characteristics differ over time in recognisable ways.

Interaction

Involves elements of an environment affecting each other and being linked together. Interaction incorporates movement, flows, connections, links and interrelationships, which work together and may be one- or two-way interactions. Landscapes are the visible outcome of interactions. Interaction can bring about environmental change.

Change

Involves any alteration to the natural or cultural environment. Change can be spatial and / or temporal. Change is a normal process in both natural and cultural environments. It occurs at varying rates, at different times and in different places. Some changes are predictable, recurrent or cyclic, while others are unpredictable or erratic. Change can bring about further change.

Sustainability

Involves adopting ways of thinking and behaving that allow individuals, groups, and societies to meet their needs and aspirations without preventing future generations from meeting theirs. Sustainable interaction with the environment may be achieved by preventing, limiting, minimising or correcting environmental damage to water, air, and soil, as well as considering ecosystems and problems related to waste, noise, and visual pollution.

RESOURCE A: Ross township and district

Ross is informally known as 'Gold Town' as the influence of gold has been important through its history.

In 1864, gold was discovered. This resulted in a gold rush of prospectors seeking their fortunes. Ross township consisted of miners' tents and huts, a few general stores, and hotels.

The easy gold was soon taken, and by 1890 most miners had moved away. Ross township developed into a permanent settlement, but its population dropped to 800.

Gold mining had ceased by 1918. However, in 1974, a new gold-mining company began to mine more gold in large open mines. Today, gold mining provides employment for 25 people.

Ross' gold-mining history attracts tourists; there is a museum, walking tours, adventure cycling, and accommodation.

Ross has a population of 297 people.

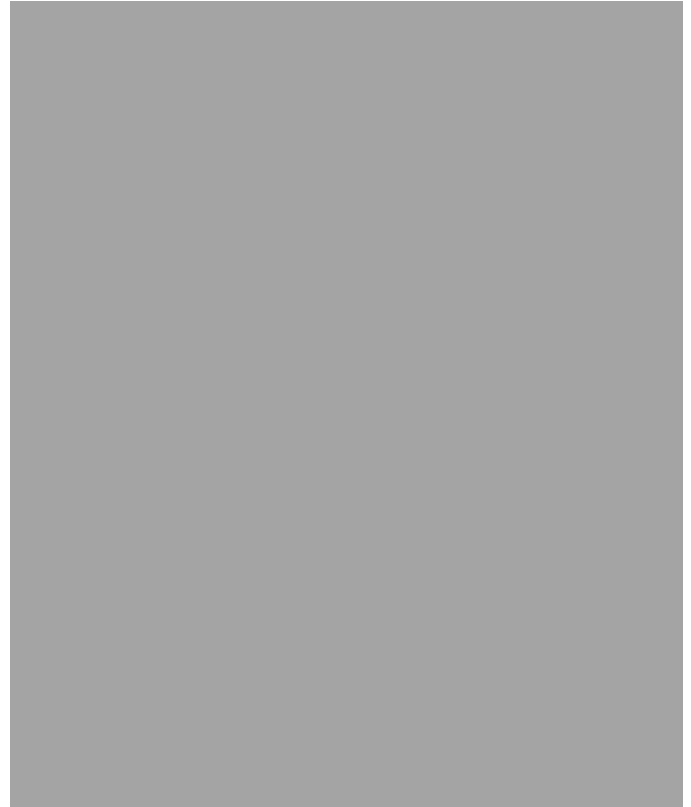


Figure 1: Location of Ross



Figure 2: The Ross district, looking south east with Ross in the lower left

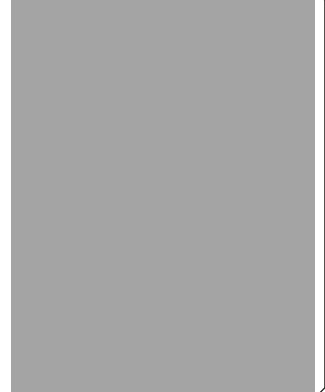
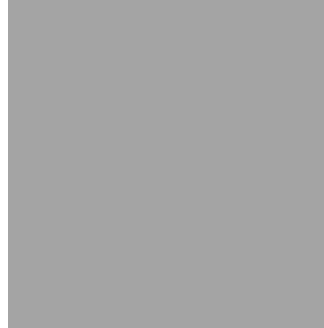
RESOURCE B: Early gold mining in the Ross district, 1850 to 1970

Gold and other rocks were eroded from the Southern Alps by rivers and glaciers. They carried this material to the plains and deposited it as gravels containing gold.

Methods of gold mining, 1865–1970

Gold rushes, 1865

Panning is the simplest way of getting gold. The discovery of gold at Ross meant a rush of prospectors who used only pans and shovels; they swirled gold-rich gravels in a pan so that the heavier gold collected in the bottom.



Gold sluicing, 1880

Once the easy gold was taken from rivers, **sluicing** was used to erode the river terraces (banks) using high-pressure hoses. The water would erode the gravels and the water carried the gold to be trapped in **sluice boxes**. The waste gravels were deposited as **sluice tailings**.



Gold dredging, 1890

Gold **dredges** were large mechanical diggers that dug river gravels, separated out the gold, and then deposited the gravels behind in high piles of rocks called **dredge tailings**.



Economic decline, 1920–1970

By 1918, early gold mining in Ross had ceased, and there was economic decline from 1920. However, by 1970 the history of the old goldfields began to attract tourists.

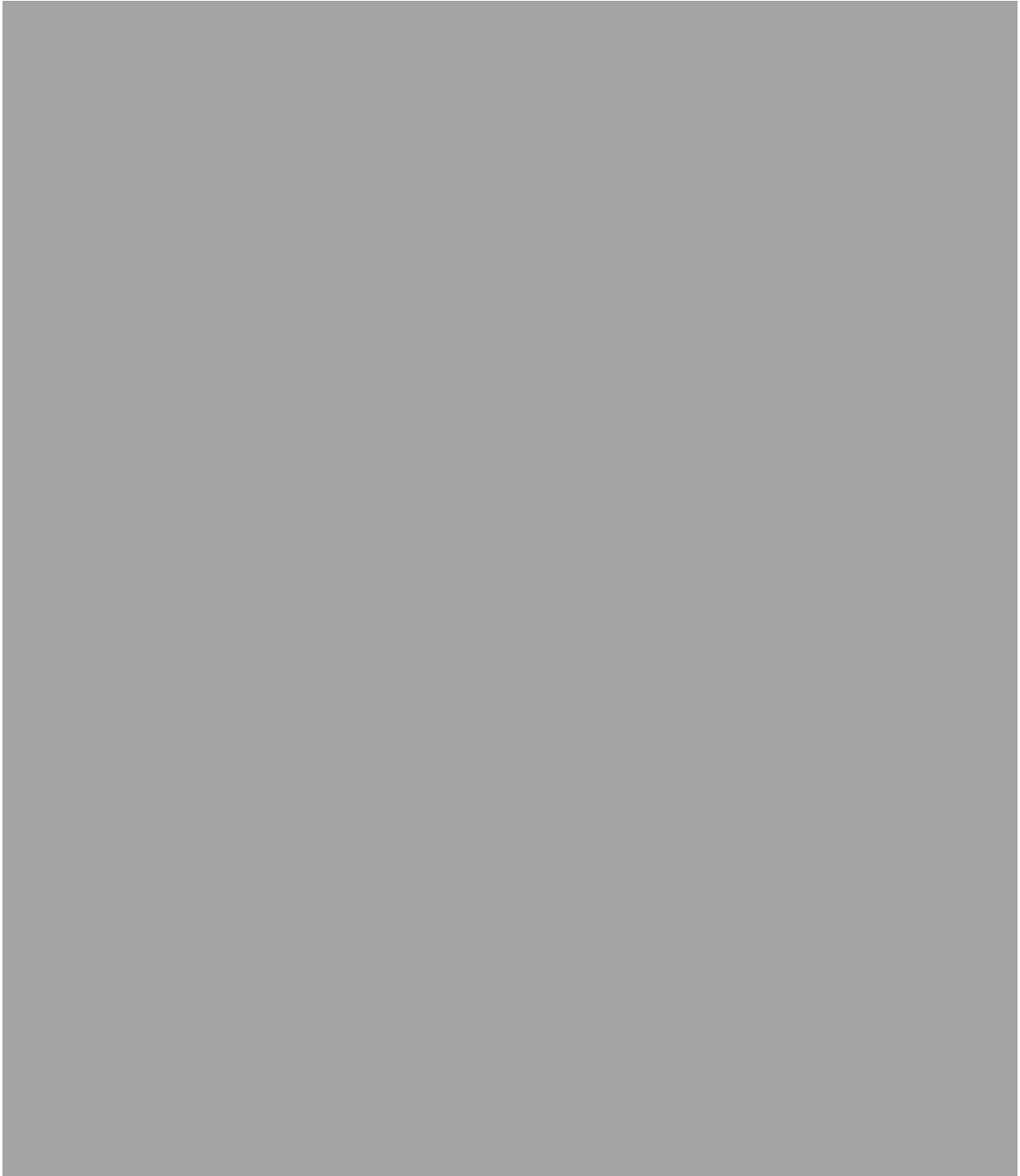


Figure 3: West Coast landscape features 1850–1970

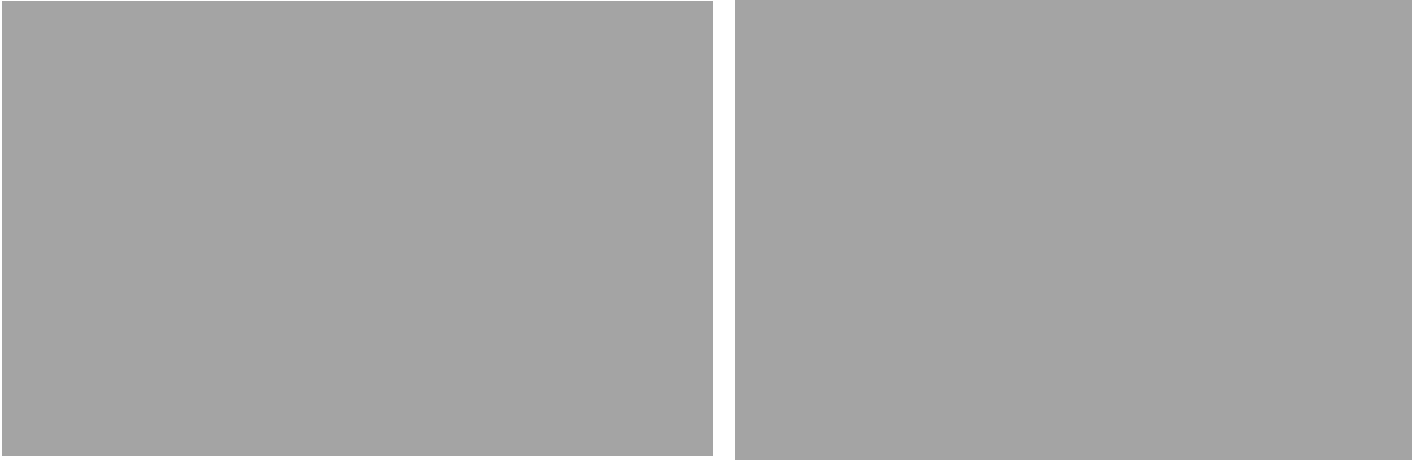
RESOURCE C: Gold mining in Ross district today

Figure 4: Opencast mining 1980–2021. Gold mining today in Ross is opencast – open pits using heavy machinery.



Figure 5: Satellite image of the Ross district 2006.



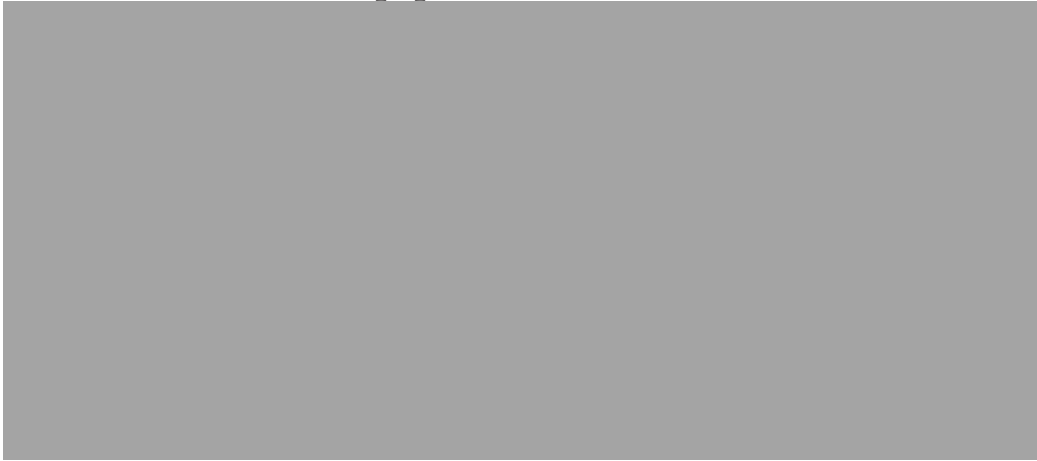
Figure 6: Topo map of the Ross district 2010.



Figure 7: Satellite image of the Ross district 2020.

RESOURCE D: Gold mining and the Ross district today

Ross population 1840 to 2020



Some views of gold mining in Ross district



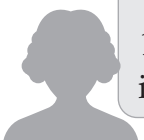
"The 25 mine workers take home an average of \$65,000 a year. This is important for our town, providing employment opportunities for young families, and supports local businesses and enrolments up at the primary school."

**Pauline,
local resident**



"Gold mining has had a devastating effect on the Ross landscape ... 160 years later there are still visible scars from sluicing and dredging, and the native bush has not recovered. Today, opencast mining involves clearing native bush, with many of the trees over 300 years old ... the landscape will take many centuries to recover."

**Vince,
conservationist**



"Today, gold is important to Ross for tourism. The surrounding landscape is as much about the rich gold-mining history as it is its beautiful native bush and mountain scenery.

In the surrounding hills there are many pieces of discarded mining equipment, sluice tailings, and mine shafts, and a replica of a miner's hut. There is an old cemetery, which tells much of the early prospectors' experiences of tragedy, sadness, and hardship.

The town's old Empire Hotel is popular with tourists. It gained its licence 150 years ago and, like many of the old buildings, it is like a step back in time with its walls filled with historic photos."

**Hine,
local tour guide**

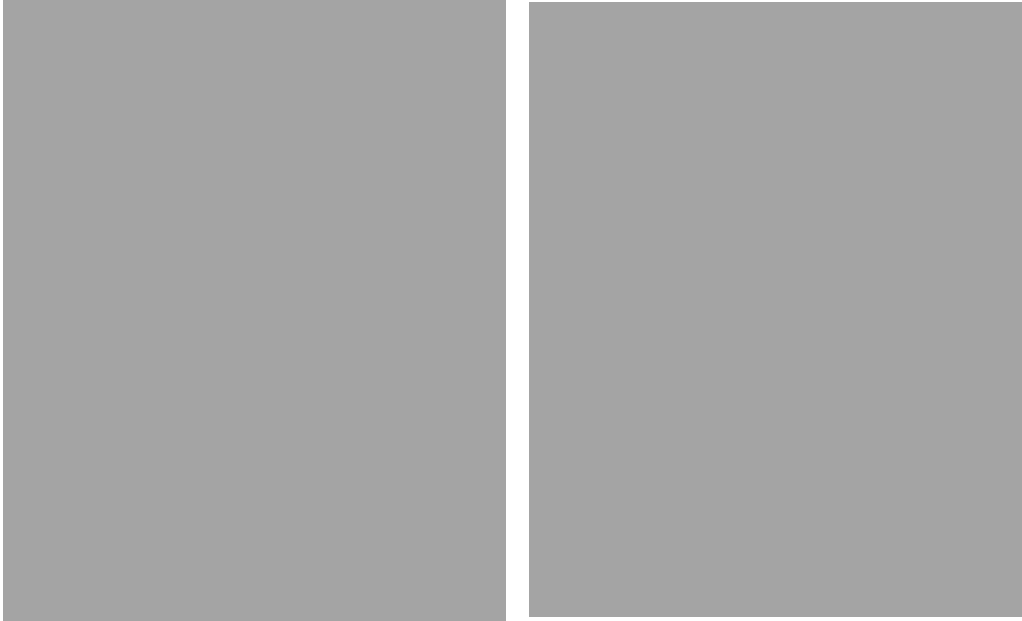


Figure 8: Ross opencast mine 1991 (left) and 2019 (right). The lake provides recreation opportunities.

Gold tourism in Ross today



Figure 9: Signs for gold-mining attractions

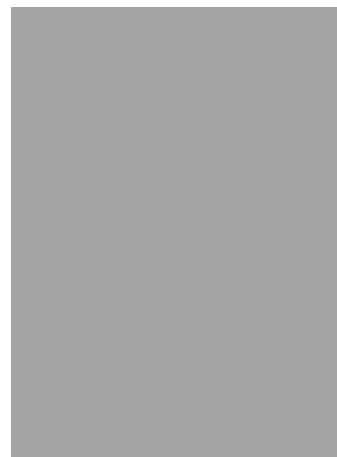


Figure 10: The Gold Room jewellery store



Figure 11: A tourist gold panning



Figure 12: West Coast Wilderness Cycle Trail

Acknowledgements

Material from the following sources has been adapted for use in this examination:

Page 3

Satellite image: Google Earth

Image: <https://hokitika.org/places/67/ross>

Page 4

Images (top to bottom)

<https://www.nzgeo.com/stories/gold/>

<https://traveltips.usatoday.com/gold-panning-alaska-43463.html>

<https://westcoast.recollect.co.nz/nodes/view/20567>

<https://community.paydirt.co.nz/t/the-west-coast-gold-rush/1585/2>

Page 5

McCaskill, M. (1966). *Man and Landscape in North Westland* (p. 151). Geographic Society.

Page 6

Figure 4: <https://www.fergusmurraysculpture.com/new-zealand/gold-rushes-gold-maketh-the-colony-5-pages/>

Figure 5: Google Earth 2020

Page 7

Figure 6: <https://www.topomap.co.nz/>

Figure 7: Google Earth 2006

Page 8:

Data: *New Zealand Official Year Books* 1893–2012

Page 9:

Aerial photograph: <https://teara.govt.nz/en/photograph/8652/ross-west-coast>

Satellite image: Google Earth

Tourism images (clockwise):

<https://www.fergusmurraysculpture.com/new-zealand/gold-rushes-gold-maketh-the-colony-5-pages/iii-the-west-coast-gold-rush/>

https://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10624664

<https://cyclejourneys.co.nz/west-coast/local-info/ross/>

<https://www.flickr.com/photos/dangerousbiz/6795989688/>

