

In terms of education, 53 percent of people aged 15 years and over have a formal qualification and just under two percent hold a bachelor's degree or higher. As employers, Ohai's largest 'industry'⁹² was mining, with 72 percent of paid employees, followed by agriculture, forestry and fishing. The most common occupation is labourer, followed by technicians and trades workers. Since the 2013 Census, Solid Energy Ltd. went into voluntary administration and the Ohai mine was sold to Greenbriar⁹³.

Although Ohai is a base for local employment, the town no longer has business or retail services. It has a strong community spirit and a range of community groups and services including: Ohai Volunteer Fire brigade, Ohai-Nightcaps Lions Club, the Second Time Around Group⁹⁴ and Ohai Country Women's Institute. Sports groups and facilities include: Ohai Bowling Club, Takitimu United Netball Club, Ohai Golf Club and Takitimu District Pool. There is a biennial Ohai-Nightcaps Firework Display to celebrate Guy Fawkes.

3.4. Te Anau

3.4.1. Location and Role

Te Anau is an inland tourist and rural service town that sits on the "dry side" of the mountains (Hall-Jones, 1983) in the Te Anau Basin, which is located in western Southland beside Fiordland. The town lies on the south-eastern shore of Lake Te Anau, New Zealand's second largest lake⁹⁵ and is a 'Natural State' water body⁹⁶. The town is sited on an alluvial plain formed by the Upukerora River, and is adjacent to the eastern edge of Fiordland National Park (Lake Te Anau lies within the park). It primarily exists because of its proximity to Lake Te Anau, and the town and the lake are closely interwoven.

The area around Te Anau was known as Marakura (meaning earth) and referred to the red lichen that grew on the rocks (Hall-Jones, 1983). The town was named after Lake Te Anau, which comes from Te Ana-au. There are many suggestions as to the meaning of the name, most of which reference the lake's limestone caves and water. Te Anau is used as a base for many recreational activities, such as visiting the glow worm caves and walking tracks, including three of New Zealand's Great Walks: the Kepler, the Milford and the Routeburn tracks. Many of these walking tracks are based on historic trails used by Ngāi Tahu. Lake Te Anau, Upukerora River, and Eglinton River (Southland's sole "fly-fishing only" river) are valued for brown and rainbow trout fisheries, attracting domestic and international tourists.

Te Anau's water supply has two sources: the primary source is three shallow bores adjacent to Lake Te Anau (north-west of town), and the secondary source is an Upukerora bore. The water is treated

⁹² Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06 V1.0).

⁹³ <http://www.solidenergy.co.nz/final-milestone-achieved-in-solid-energy-asset-sales/>

⁹⁴ This group runs an opportunity shop and sells meals in the Ohai Community Hall to raise money for community projects (<https://www.stuff.co.nz/southland-times/news/92408960/Voluntary-work-important-to-John-Hogg-in-Ohai-Nightcaps>).

⁹⁵ Lake Te Anau is 61 kilometres long and 276 metres at its deepest point.

⁹⁶ As defined in regional planning documents.

and when the Upukerora River is in flood there are water quality issues with the supply from the Upukerora bore. Te Anau's treated wastewater is discharged into the Upukerora River, just before the River joins the Lake. Parts of the town are at risk of flooding and rock reinforcement is used to maintain the current course of the Upukerora River. The Manapouri Power Scheme now controls the levels of Lake Te Anau and Lake Manapouri principally for power generation but is required to take into account other considerations⁹⁷.

Te Ana-au and Moturau (Lake Manapouri) are both Statutory Acknowledgements Areas and the Tākitimu range is recognised as significant to Ngāi Tahu and has Tōpuni status under the Ngāi Tahu Claims Settlement Act 1998. Te Anau is within the Waiau and Waiau Lagoon Freshwater Management Unit.



Image B23: Looking east from Lake Te Anau towards Te Anau's Town Centre
Source Emma Moran

The town is a medium-sized urban centre that is quite some distance from other sizeable towns: the closest being Winton 127 kilometres to the south-west and Queenstown 171 kilometres to the

⁹⁷ The levels of Lakes Manapouri and Te Anau are regulated under the Manapouri – Te Anau Development Act 1963. Also relevant is Part 2B of the Conservation Act 1987 Guardians of Lakes Manapouri, Monowai, and Te Anau, which includes consideration of the effects of the Manapouri and Monowai hydroelectric power schemes on the rivers flowing in and out of these lakes.

north-east. Although it is largely focused on tourism and agriculture, the town is also the central hub of a much wider community in western Southland. There are many retail and business services and facilities, which are used by people living in the Te Anau Basin and further afield, including Mossburn and Manapouri towns and Milford Sound – and Te Anau is dependent on the economic activity in these areas. The Department of Conservation has an area office and visitor centre located in the town. There are also a wide range of other services, such as primary and secondary schools and a medical centre, which are used by locals well beyond the town boundary.

3.4.2. Settlement and Development⁹⁸

Te Ana-au is a lake referred to in the tradition of “Ngā Puna Wai Karikari o Rakaihautu”, which tells how the principal lakes of Te Wai Pounamu were dug by the rangatira Rakaihautu. Rakaihautu and his followers traced the Waiau from its source in Te Ana-au (Lake Te Anau) to the sea at Te Waewae Bay. Māori legend recalls a mythical cave filled with glowing light on the lakeshore. Te Ana-au was sometimes used as a retreat during periods of battles between iwi and hapū – it was one of the last places where Ngāi Tahu and Ngāti Mamoe came into conflict – a Ngāi Tahu party killed the rangatira of Ngāti Mamoe at the end of a series of offenses and retaliations.

There are two nohoanga (seasonal occupation sites) in the area – one at Lake Mistletoe (near Te Anau Downs) and another at Nine Mile Creek – there is also a nohoanga further south at Moturau (Lake Manapouri). The mauri (life force) of Te Ana-au is a critical element of the spiritual relationship of Ngāi Tahu Whānui with the lake. The area was rich in pounamu and pounamu trails existed throughout the wider area. Mahinga kai included moa, takahe, kākāpō, wai koura (freshwater crayfish), pārerā (grey duck), pūtangitangi (paradise duck), weka and tuna (eel). Although the tuna populations are still plentiful, some are affected by hydro-electric power stations. Ngāi Tahu whānui work to improve the tuna populations in both Lake Te Anau and Manapouri – transferring elver tuna from below the Mararoa dam to above the dam to allow them to continue their life-cycle.

There were seasonal settlements at the headwaters of the Waiau River, Marakura on the shores of Lake Te Anau and other places. O Whitianga te Ra (the place of the shining sun) was a Waitaha Pā close to the southern end of Lake Te Anau, close to the outlet of the Waiau River. Te Rua-o-te Moko was an eeling pā at Lake Te Anau. Te Kowhai Pā was also located at the southern end of the lake, halfway between Bluegum Point and the mouth of the Upukerora River (Hall-Jones, 1983). When Europeans visited Pā Te Kowhai in 1859 they found that it had been almost completely destroyed by fire at some point in the past (Hall-Jones, 1983). Moturau (hundred isles) was a Māori kainga on a stream just north of the outlet of the Waiau River at Lake Manapouri, and occupied by Ngāti Mamoe up until 1865.

In the early 1850s two Māori, Rawiri te Awha and George Wera Rauru te Aroha guided the first Europeans to journey Lake Te Anau (Miller, 1954; Hall-Jones, 1983). Their route went through Scotts Gap (north-west of Otautau) on an old Māori pathway that continued past Te Anau to Anita Bay in

⁹⁸ The start of this section is based on Schedule 58: Statutory acknowledgement for Te Ana-au (Lake Te Anau) of the Ngāi Tahu Claims Settlement Act 1998.

Milford Sound (Scotts Gap Book Committee, 2002). Following this exploratory trip, Donald Hankinson established Te Anau station 10 kilometres up the Upukerora River from the lake in 1858, and the Hodge brothers arrived with a large mob of sheep in 1860 to establish a station that is now Te Anau Downs⁹⁹ (Miller, 1954; Hall-Jones 1983)). The first European settlers on the lake's south shore, at the site that became the town, were men "who wanted to get as far away from civilisation as possible" - the first being Richard Henry, who lived there from 1883 until 1894, when he became the caretaker of Resolution Island in Fiordland (Hall-Jones, 1983, p. 29).

Tourism started early in Te Anau, with tourists visiting the lake and Milford Sound, after the Milford track opened in 1888 with the discovery of McKinnon Pass (Miller 1954). Soon after, William Homer discovered the Homer Saddle and was the first to advocate for a tunnel through to Milford (Miller, 1954). Visiting artists painted the lakes and their paintings publicised the scenery and helped develop tourism (Dore, 1992). In 1891, Te Anau was described as consisting of "one large inn, two small steamers, one four horse coach, and, as our friend Paddy would say, half a dozen other buildings" (Hall-Jones, 1983, p. 63). These other buildings included a post office, a blacksmith, one house and several huts (Miller, 1954). At this time John Cumine surveyed the town and called it Marakura, after the Māori name for the area, but it "never really caught on and fell into disuse" (Hall-Jones, 1983, p. 64). With better transport and improvements in roading, Te Anau began to acquire a reputation as a holiday and scenic resort and tourists came to stay at the Te Anau Hotel from all over the world (Miller, 1954).

From 1905 the Southland Acclimatisation Society had been introducing Wapiti deer, moose, brown trout and Atlantic salmon, and in 1921 Te Anau's first ranger, Charlie Evans, was employed to manage hunting and fishing (Hall-Jones, 1983). A school site was acquired in 1906 and a limited number of leases issued to permanent residents (Miller, 1954). Problems with access to Te Anau constrained its further development. The town remained much the same up until the 1930s when public demand began for holiday sections. Land fronting Te Anau Terrace and Mokonui Street was made available and the first two holiday homes were built (Millar 1954; Hall-Jones, 1983). All of the sections were sold by 1945 but building control regulations during the war held up further development (Millar 1954). Te Anau "slumbered peacefully on" until after the World War Two without any power or shops, with groceries being sent up by bus from Mossburn (Hall-Jones, 1983).

At the end of World War Two the glow worm caves opened for tourists, the beginning of Fiordland Travel Ltd. (now Real Journeys). Buildings were built on the existing sections and, in response to the insistent demand for holiday cribs, 45 acres were subdivided in 1950 into 119 residential lots and eight shop sites (Millar, 1954). With the opening of the Homer Tunnel to tourist traffic in 1953 the town "took off" with a population explosion, subdivision and building (Hall-Jones, 1983, pp. 100-101). There was a further influx of residents with the Manapouri hydroelectric power station (built between 1963 and 1971) to supply the Tiwai Point aluminium smelter. An intensive programme of aerial top-dressing of the Te Anau Basin converted scrubland into more productive farmland, which provided a "back up for this essentially tourist and holiday town" (Hall-Jones, 1983, p. 101). The first deer farms in the Te Anau Basin were established in the 1970s.

⁹⁹ On arrival the Hodges set fire to the grass, destroying an estimated 30,000 acres of grazing grass and some bush. Hankinson allowed them to run their sheep on 10,000 acres of his run until the grass had grown again (Miller 1954; Hall-Jones, 1983).

3 Waters Infrastructure

Te Anau's water supply scheme was built in 1966 – the Upukerora bore was the principal source between 1976 and 1993 until the three bores adjacent to Lake Te Anau were developed. A stormwater scheme has developed progressively as the town has grown. Original parts of the scheme servicing the town centre date back to the 1960s and 70s with further expansion continuing with the development of more recent subdivisions. Te Anau's total stormwater catchment area is approximately 336 hectares with a number of separate discharges into Lake Te Anau. The outflow from one of the discharges from the town centre receives basic treatment to remove gross solids. Some of the more recent subdivisions include onsite systems rather than direct connection to Council infrastructure.

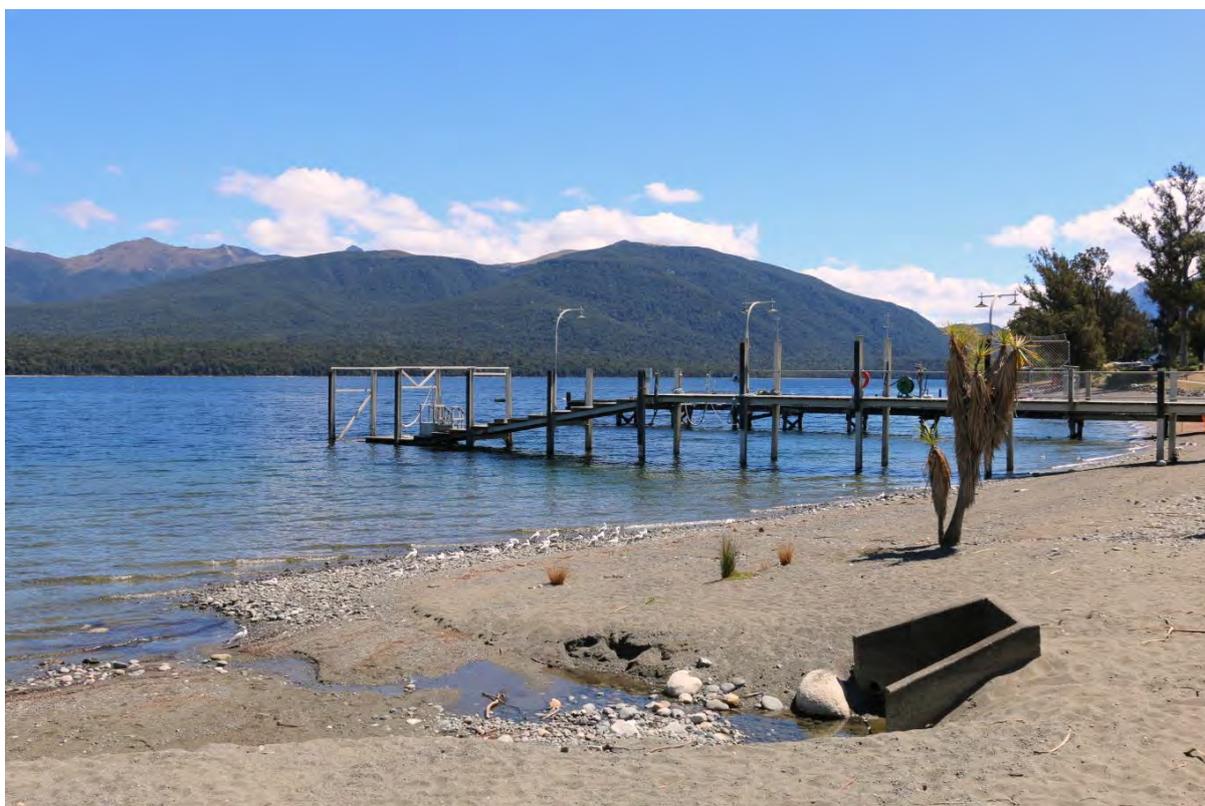


Image B24: Stormwater outfall, Lake Te Anau

Source Emma Moran

Te Anau's wastewater scheme has evolved as the town has grown. The oldest part of the network was built in 1967 to service the commercial area of town. The reticulated network was extended in 1975 to include the north-western residential area and it has continued to expand as further development occurs. In 1984, the plant was upgraded with the addition of a larger oxidation pond to the two smaller original ponds. This larger pond is now the primary oxidation pond.

In 2004 a screen, aerators, and wetland were installed at the treatment plant, and a ten year consent was granted. This consent included a condition to develop a long term strategy for the future of wastewater management in Te Anau. There was a further upgrade in 2015 when a fine screen was added to the plant and the ponds were also desludged. In 2017 a consent was granted

for the irrigation of treated wastewater from Te Anau to land away on the Kepler Block, beside Te Anau Airport, Manapouri (a distance of roughly 20 kilometres).

3.4.3. Present¹⁰⁰

Te Anau is a tourist resort and rural service centre supporting economic activity in the Te Anau Basin and Fiordland. The town is home to 1,911 people, representing just over six percent of the District and 38 percent of the Waiau Freshwater Management Unit. Unlike other towns, Te Anau's peak population (combining visitors and usual residents) rises over 350 percent to over 6,700 people. Its residents are largely European (89%), with Māori (9%) and Pacific and Asian peoples (7%)¹⁰¹. Oraka Aparima Rūnaka administer the Te Anau area although there is no local marae¹⁰². In general, the age distribution of Te Anau's population tends to be similar to Southland as a whole: the median age is 41 years, with 17 percent of people under 15 years old and 16 percent of people over 65 years.

There are 1,467 houses in Te Anau and their occupancy is 61 percent, which is low for Southland. Occupancy in the town is seasonal, influenced by the large number of holiday homes, and the number of permanent homes in the town is increasing over time. Most households are either one-family (66%) or one-person (28%). Of the family households, most are couples without children (56%), although there are many couples with children (32%), and some one parent with children (11%). The average household size in the town is 2.2 people. Home ownership is around 65 percent of all households – which is just under 4 percent more than in 2001. For those who do not own their home, median household rent is \$200 per week – both of which are higher than for the region.

Just over three-quarters of people aged 15 years and over are in the labour force and the unemployment rate is 1.7 percent (which is low for the region). In the 12 years between 2001 and 2013, the number of paid employees increased 2.4 percent to around 900 people - another 230 people are either employers or self-employed. The median income in Te Anau is \$30,300, which is high for the region, with a wide income distribution: 30 percent of people earn less than \$20,000 a year, and 22 percent earn more than \$50,000 a year. In 2013 the Ministry of Health's social deprivation index score for Te Anau is four (where 1 reflects low deprivation and 10 reflects high deprivation).

In terms of education, just under 79 percent of people aged 15 years and over have a formal qualification and 13 percent hold a bachelor's degree or higher. As employers, the largest 'industry'¹⁰³ in Te Anau is accommodation and food services, with just over 38 percent of paid employees, and retail trade. These industries contribute to the tourism sector. The most common occupation is managers, followed by technicians and trades workers, and then labourers, which is unusual for Southland.

¹⁰⁰ All statistics in this section are taken from the New Zealand Census 2013 – it will be important to also consider information from the 2018 census as it becomes available.

¹⁰¹ These figures add to more than 100% because some people identify as more than one ethnic group.

¹⁰² Te Waiau Mahika Kai Trust own Te Koawa Tūroa o Tākitimu, which is a culturally significant site close to Te Anau and allows whānau to either connect or reconnect with the area.

¹⁰³ Australian and New Zealand Standard Industrial Classification 2006 (ANZSIC06 V1.0).

As the gateway to Fiordland and Milford Sound, Te Anau is a hub for tourist and retail businesses, rural supplies and services for the local community, and some light industry (in the east of the town). Examples of light industry are Fiordland Lobster Company, and several small engineering firms. Te Anau is also the base of Real Journeys, a major South Island tourism company. There is a full range of community groups and facilities including: Te Anau Volunteer Fire Brigade, the St John ambulance service, police station, Te Anau Community Events Centre, Plunket, Rotary and Lions clubs, library, and a community market. There are also many sports clubs and facilities such as the Fiordland Community Swimming Pool and Te Anau Golf Club and annual events include the Te Anau Manāpouri Fishing Classic Competition, Te Anau Enduro (kayak, mountain bike and running) and the Fiordland Big 3 competition (catch a deer, a pig and a trout). The Te Anau Tartan Festival is a festival of Scottish music, dance and Highland Games, usually held over Easter Weekend, which celebrates the Scottish ancestry of many Southlanders.

3.5. Environmental Issues Relating to Water

Southland District covers the majority (around 95%) of the region (i.e. inland and coastal), stretching from the tributaries of the river catchments down to the coast and most of the region's estuaries. The District covers a large and varied landscape and is sparsely populated. Within the District there are many types of water bodies and situations. These water bodies have long been sources of fresh water and food, as well as more recently being used to remove waste products and for hydroelectric power generation. Each waterbody has its own set of unique values and the environmental issues relating to water vary considerably across the District. Managing the range of situations is a challenge. Micro-organisms (measured using *E. coli*), nutrients, and suspended sediment, from a range of urban and rural activities, are elevated in parts of the District and contribute to water quality issues.

The main environmental issues for Southland District Council revolve around security of water supply (for both urban and rural schemes), and wastewater and stormwater discharges, often into smaller watercourses that can have water quality issues upstream. Each topic has water quantity and water quality considerations. While some issues are similar to those for the other two territorial authorities, the crucial points of difference are the much larger number of municipal schemes and the relative absence of heavy manufacturing and processing industries across the District, with the exception of Edendale and Alliance Lorneville. Southland District Council holds close to fifty consents for water supply takes, and for wastewater and stormwater discharges. As well as issues relating to the 'three waters', Southland District Council has to deal with the challenges around managing the effects of sea-level rise on communities along the southern coast (excluding Invercargill and Bluff) and climate change more generally.

Southland District has plenty of fresh water but it is not always in the right places at the right times. An increase in irrigated pasture in northern Southland for intensive agriculture has increased the amount of water being taken and many waterbodies are nearing full allocation (e.g. the Cromel Stream and a number of aquifers across the District). While water storage is an option it can change the natural water cycle. The Waiau River in western Southland is also fully allocated because of the diversion of the majority of its flow through Meridian's Manapouri hydroelectric power scheme to Doubtful Sound. It is not possible to take more water from these areas.