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A compilation of historical accounts of the 1872 Glenorchy landslide

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Mineral Resources Tasmania

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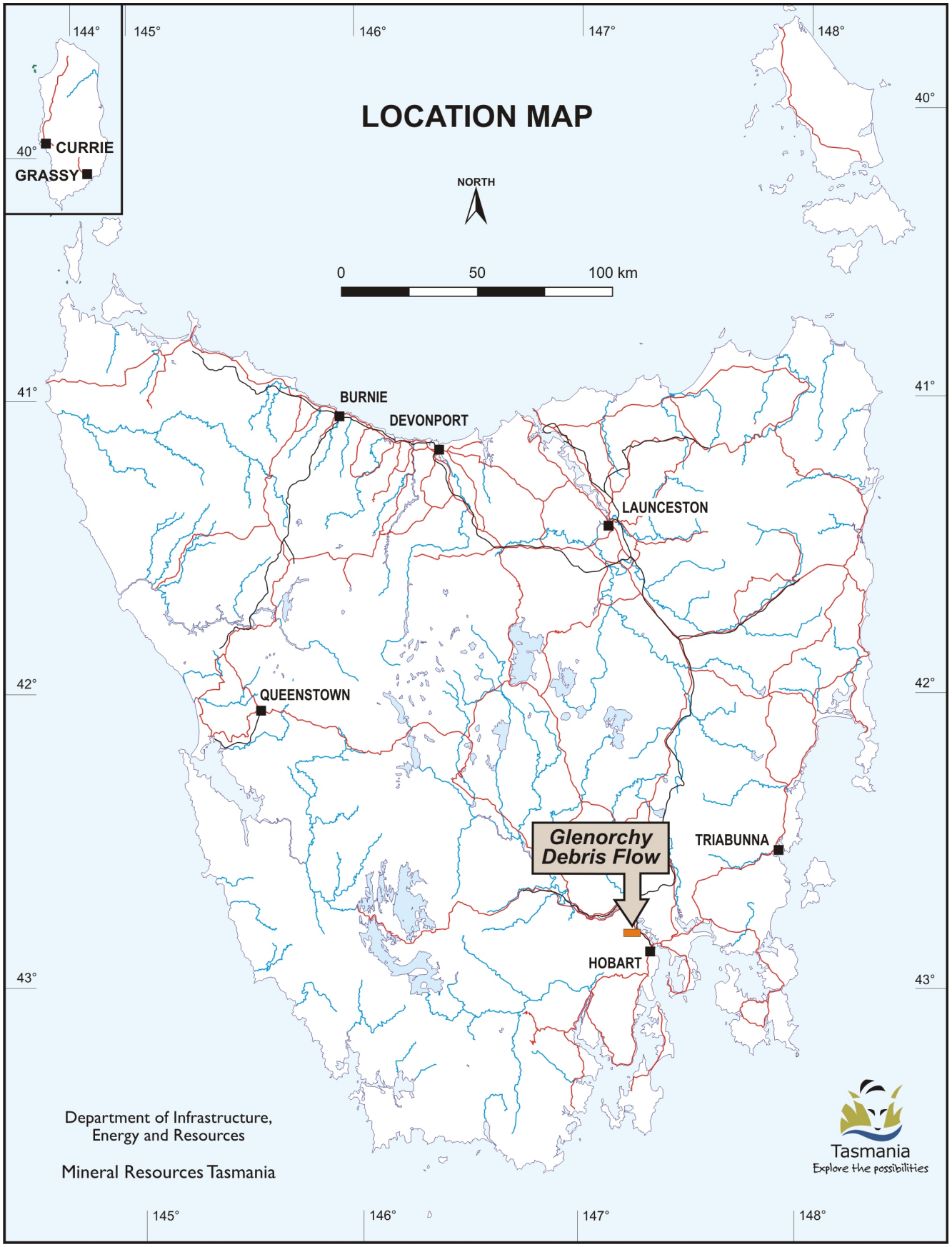

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Introduction

Late at night on Tuesday 4 June 1872, after about 24 hours of heavy rain, a large landslide took place on the steep northern slope of Mt Arthur (at approximately 517 300 mE, 5 252 400 mN — coordinate datum GDA94). The slide — incorporating a huge volume of floodwater, boulders, broken trees, sediment and other debris — was channelled rapidly down Humphrey Rivulet and disgorged onto the plains of what is now the city of Glenorchy. A number of houses and farms were damaged or destroyed. Miraculously, no lives were lost, although one drowning had occurred during the floods of the preceding afternoon.

The descriptions of this event are consistent with it being due to a debris flow, a fast-moving torrent of water, mud and debris. The 1872 Glenorchy landslide remains the largest and most damaging debris flow recorded in Tasmania since European settlement. If a similar event was to be repeated today, the impact on the now densely built environment of the city of Glenorchy would be severe. Similar debris flows could also reach Hobart from the slopes of Mt Wellington, and although likely to be highly unusual (infrequent) events, debris flows are a significant geological hazard in the greater Hobart area, as shown by recent geohazard mapping (Mazengarb, 2005). We therefore consider it important to collate the various scattered historical accounts of the event so that it remains in the public consciousness. We invite comment, particularly further historical information, so that knowledge of the event can be further improved. The vivid contemporary descriptions permit a fairly detailed analysis of the dynamics and extent of the debris flow, which will be the subject of a later report. The historical accounts, including two photographs (Plates 1, 2), are supplemented by a map (fig. 1) showing our present understanding of the affected area, and the inferred locations of various observation points and places affected by the debris flow, as referred to throughout the text. A graph of monthly rainfall for 1872 is included (fig. 2).

There are some inconsistencies between the various accounts, but no attempt is made here to judge the most likely version. Table 1 summarises and contrasts the various accounts of the main events associated with the landslide. Transcripts from *A History of Glenorchy* (Alexander, 1986) have not been included for reasons of copyright. The relevant section of the book draws from material included in this report.

The Mercury, Wednesday 5 June 1872

Microfilm records, State Library of Tasmania

THE WEATHER AND THE FLOODS.

LOSS OF LIFE.

After several fine days, up to Monday last, when the weather was dull and hazy, a change occurred at midnight, and rain set in with a strong south-westerly gale, increasing during the night to a hurricane. At daylight on Tuesday morning, there was every appearance of floods; the cellars of some of the large establishments began to be inundated, and measures were commenced for removing stores and goods liable to be damaged by the water. As the morning advanced, the wind increased in violence, and fears began to be entertained for the safety of the shipping in harbour; but we are glad to say that the precautions adopted were successful in averting damage. In the meantime, the sea ran exceptionally high and the creeks became swollen, the Hobart Town Rivulet having an unusual fresh, until about 1 pm, when it over-flowed in Collins-street in the vicinity of the New Market, which presented the appearance of a vast lagoon. By degrees crowds of persons assembled in different localities where they could catch a sight of the creek, in Collins-street, Argyle-street, on Wellington Bridge, and the other bridges upwards, as well as from the back parts of the houses in Liverpool street. About three o'clock a quantity of debris was borne on the rushing torrent, indicative of the resistless force of the water in removing obstructions, and showing that the damage customarily resulting from floods, had begun. Some members of the civic body appeared on the scene, as also Mr Propsting, Superintendent of Police, and a number of Municipal force who were assisted by many of the citizens in preventing an extension of mischief, removing obstructions, and aiding in placing property in safety. We subjoin details as far as we have been enabled to collect them, commencing with those in Hobart Town and suburbs, and including such of the country districts as are within telegraphic reach.

PARK-STREET CREEK.

There was considerable fresh in the creek abutting on Park-street, and between one and two pm a wall and several fences enclosing the properties of Mr Green and others, were thrown down by the violence of the flood, and the water overflowed in the gardens bordering on the creek, doing damage to the trees. A quantity of timber was floated out of Mr Green's yard, and fears were entertained for the newly constructed culvert at the Park-street end of Bathurst-street, and had there been traffic a boatman could have plied there.

MOLLE-STREET BRIDGE.

The scene from Molle-street bridge was one of devastation. The rush of waters levelled fences on land near Turner's mill, in one direction, and threw down a fence and wall on Mr Barnard's property at the back of Macquarie-street, and in each case the water flowed into the paddocks and gardens, and must have done more or less damage. The bridge itself appeared to be staunch, although the water at that point rose to a great height.

WALKERS' BREWERY.

The malt-house on the premises of Messrs. J Walker and Son was flooded, the water attaining a height of 18 inches, and there was a depth of water of 5 feet at the kiln eyes. About a dozen men were kept actively employed in preventing damage and removing grain. A part of the brewery yard was also inundated. The bridge in Upper Collins-street, and a small bridge opposite the brewery, were at one time thought to be in jeopardy owing to the force of the torrent, but as at that part there is a slight divergence in the creek, and the water has a considerable break, no damage resulted.

WOOD AND SPENCER'S BREWERY.

This establishment, at the back of Liverpool-street, suffered severely by the influx of water and the *[3 words missing due to crease in page]*. The ground floor of the brewery was completely inundated by the overflow of the creek, and the private bridge from Liverpool-street was carried away. A like disaster occurred at the time of the last flood.

HARRINGTON-STREET.

Mr Wignall, basket-maker and cooper of Harrington-street, is a considerable sufferer. He had a workshop and store on the west side of the street, and immediately abutting on the creek was his forge, contiguous to which were his principal tools. The action of the water loosened the foundations, and the structure gave away, carrying with it forge, tools, and all. The debris of the building, with portions of Mr Wignall's stock, consisting of casks, pails, baskets, willows, and other articles, were precipitated down the creek with great rapidity. A valuable steam engine in a portion of the same premises was fortunately saved. It is said Mr Wignall's loss will extend to upwards of £200, and general sympathy was expressed for him. Most of the houses and lands on the same side of the street were also inundated.

MELBOURNE-STREET.

This street was completely flooded, and ingress to the houses was stopped. One aged female inmate had a series of hysterical fits during the afternoon, and she refused to be removed. It was here a rumour arose that a little child had been carried away by the torrent, and a good deal of commotion prevailed in consequence.

The news was soon disseminated all over the town, and gained general credence. The names of the persons were given who had seen the child, and could vouch for the fact; but upon our reporter instituting personal enquiries he found the rumour was not confirmed, and we hope it is without foundation.

LIVERPOOL-STREET.

On the south side of Liverpool-street abutting on the creek, most of the residents were alarmed. In that part of the street from Mr Wood's brewery to Harrington-street, are a number of small tenements close onto the creek, the back parts of which were completely flooded. Further down towards Elizabeth-street the back yards were inundated, and a number of fences behind Mr Brownell's, Mr Hollinsdale's, &c and several outhouses, were carried away. The cellars of Messrs. Salier, at the corner of Liverpool and Elizabeth-streets were flooded to a great extent, and much property was endangered. The cellars of Mr Arnold and of Mr Brownell were also flooded, the latter gentlemen remarking that the same thing had not previously happened during ten years' occupation of the premises. During several portions of the afternoon and evening the brigade of the Tasmanian Fire Office rendered effective aid in pumping out the water by means of the engine. The cellars of Messrs. Walch, at the opposite corner, also suffered.

ELIZABETH-STREET.

The outhouses at the back of Messrs. Warner, Aldred, Harbottle, Dobbie's, &c, were either carried away or damaged by the flood. Mr Warner, was standing on a portion of a fence when it gave way and he was precipitated into the torrent, and would have been drowned had he not been checked by some projecting obstruction, and by the rebound brought again to terra firma. A cellar door on Mr Dobbie's premises was forced open by the rushing in of the water, and some work which was being prepared for the Hon. Mr Kennerley's new mansion was materially damaged. Two private bridges at the rear of Mr Harbottle's premises were washed away.

ELIZABETH LANE.

The residents of Elizabeth Lane, alias Cat and Fiddle Alley, are among the sufferers, and there were several narrow escapes of children in this locality from being washed away. Mr Alderman Nicol, and Mr Superintendent Propsting, assisted by the citizens, amongst whom was Mr Brownell, did good service in preventing fatal disasters. A number of fences were carried down the stream, and the water overflowed a roadway where had been a lot of youngsters just before, who could with difficulty be prevented from getting into danger. The tenements in the lane were completely flooded, and a good deal of distress must have resulted. Mr Davis, hardware merchant, had the water in his store, and he and his assistants had to work hard to save a quantity of valuable goods.

WELLINGTON BRIDGE.

This bridge narrowly escaped being burst up in consequence of the accumulation of debris, consisting of timber, and other things, which had to be removed by special means. Aldermen Nicol and Rheuben were particularly active on the occasion, and Superintendent Propsting, Constables Green and Hollis, and others, did substantial service in superintending and assisting to clear away obstructions. At the request of the Public Works Committee, the Hon. Colonial Secretary gave orders for two gangs of prisoners from the gaol to work at the bridge, and these, headed by a man named Gleeson, behaved with much daring, indeed risking their lives, to seize the debris as it rushed, borne on the torrent, towards the bridge, and hand it ashore. The attention of the Colonial Secretary was specially directed to Gleeson and the other men who acted so praiseworthily in behalf of the citizens. Besides the Aldermen already named, we noticed Aldermen Crisp, Risby, and Belbin taking an active interest in the operations. The timber and other articles rescued from the water were stacked in the road, and showed how much good had been effected in removing such formidable obstructions. The names of the constables referred to, and other members of the force who rendered good service in this and other localities, and of the prisoners mentioned, will be submitted in a formal way to the authorities with a view to the recognition of their services, and, in the case of the prisoners, to some indulgence, which they well merit.

MURRAY-STREET.

The Club Livery Stables, kept by Mr Taylor, which abutted on the creek, were carried away, the water undermining the foundation. But for the timely aid of Mr Walter Graham, the horses, five in number, would also have been lost. Mr Graham got out four of the horses, and then seeing the ground carried away from under the fifth, he, almost at the risk of his life, cut the halter, and rescued the animal. He also let out the dogs that were there. We have been unable to find out to whom the horses referred to elsewhere as having been carried away, belonged. It was generally reported that a bay horse lost was one of Mr Taylor's, but Mr Graham asserts that all Mr Taylor's horses were got away safely. The back portion of the premises of Mr Turner, the butcher, adjoining Mr Taylor's stables, was carried away. A shed at the rear of Messrs. Haybers and Hammond's premises a little higher up Murray-street was washed away, and at the same time several trusses of hay, all of which were seen at the Wapping end of the creek, progressing towards the sea. In the same street, on the opposite side of the way, some piles at Bealey & Son's store, on which rested an outer store, were likewise washed away. In the morning about ten o'clock, while the storm was raging with great fury, the ceiling of Mr Wintle's shop in Murray-street gave way, and fell with a loud crash, doing much damage. It seems a slight intimation of the impending disaster was given a few seconds before, by

a small patch falling first, which attracted Mr Wintle's attention. On looking up he saw a very large mass giving way, and while in the act of placing two shutters against the front of a glass case, to protect it, the mass fell, striking him on the head and knocking him down, but fortunately he escaped with no more serious consequences than a few bruises.

COLLINS-STREET.

The wall at the rear of Mr Lewis's, Collins-street, was carried away into the creek and the house was inundated, the water being several feet in depth, carpets and other furniture being completed saturated. By timely assistance however, the principal valuables were removed, and it is not thought the damage done is very considerable. The cellars of Mr D. Lewis's large store began to fill at an early part of the day, and several hours were occupied in lifting the stores aloft.

THE CAMPBELL-STREET BRIDGE.

At this bridge, and at the lower end of Collins-street, a large amount of destruction was done. The waters in the creek rose steadily till about 3 o'clock, when great fears were entertained that the bridge would give way to the immense pressure of the water which was then coming down the creek. Masses of debris, the portions of bridges, sheds, &c., which had been carried down by the current, came against the arch of the bridge, the heavy pieces of timber striking with the force of battering rams. About a quarter past 3 o'clock, the wall abutting on Collins-street, opposite the New Market, gave way — a piece of some 25 yards falling with a dull crash into that street. The foaming torrent, thus released from the confining walls, found its way down Campbell-street towards Macquarie-street, and thence into the Fishermen's Dock. At this time the numerous spectators congregated on and about the Campbell-street bridge were horrified at seeing three men carried away by the rush of the water which had escaped by the falling of the confining wall. One of these men climbed up a lamp post opposite the New Market, and remained in this perilous position for some minutes till the fury of the sudden outburst of water had abated. Another man was rolled over and over in the seething torrent like a cork, and was carried many yards before regaining his feet. The third escaped with some difficulty by swimming and wading up Collins-street. Two horses came down at this time, one of which was not quite dead, and efforts were made rescue it from the waters, but without avail. The falling of the wall confining the flood waters in Collins-street caused the sudden submergence of the lower rooms of the whole of the houses in the lower part of Campbell-street and from the bridge to the dock, across Macquarie-street, it was one unbroken sheet of troubled water. The water-pipe main which crossed the road at this bridge was carried away early in the afternoon, and the water flowed from the pipe for some hours, till it was turned off.

LOWER COLLINS-STREET.

The dwellings in the lower part of Collins-street, suffered severely from the devastating flood of water. From the Campbell-street bridge to the Domain the whole of the house basements were covered to a depth varying from three to six feet. The wooden bridge leading from the Young Queen Hotel to Cross-street was severely assailed, but being well elevated withstood the fury of the flood. The inhabitants of these dwellings were compelled either to clear out altogether or to take to the upper stories. Several distressing scenes were here witnessed in the removal of the many families who were rendered suddenly homeless. One woman who had been recently confined had to be carried out of her house in the pitiless downpour, the waters having risen to the bed in which she was lying. She was with her infant, taken to the Sir George Arthur Hotel where she was kindly attended by the landlady Mrs Screen. Several other families found shelter at this hotel, and the kindness of the hostess was extended to many of the unfortunate who had been suddenly driven from their homes. At the Thatched House Hotel several families also found a refuge. A family of young children in a house in Cross-street were, at one time, supposed to be in great peril, and were compelled to take to the upper story, but the flood subsiding they suffered nothing but the temporary fright and inconvenience. The tannery of Mr Holmes in this locality was covered several feet deep in water, the pits being filled and a vast amount of destruction done.

THE NEW MARKET.

The tenants of premises in the New Market seeing the danger which threatened them, took early precautions against the flood, and by constructing barriers of planks well puddled up with clay kept the water out of their premises for some time. When the wall in Collins-street succumbed, however, their precautions were rendered unavailing, the waters rushing over the barriers and flooding the market to a depth of one or two feet. Messrs. Ikin, Knight, and Pogue suffered heavy loss. Mr Pogue had a large quantity of jams ready for shipment by the Pet, the whole lot of which was destroyed. Mr Cresswell, dealer in furniture and miscellaneous goods, has also been a great sufferer.

MACQUARIE-STREET BRIDGE.

The whole of the lower portion of Macquarie-street, from Pregnell's butcher, to the bridge, was submerged to a depth of three or four feet, the water which escaped from the creek by the falling of the confining wall in Collins-street, rushing in a boiling torrent down the lower end of Campbell-street, and escaping through the lanes in that locality into the Fishermen's Dock. The old Treasury building was completely surrounded to a depth of two or three feet, and very considerable damage was done in this locality.

THE UPPER PART OF THE CITY.

Proceeding upwards along the Hobart Town Rivulet, it presented a seething volume of water dashing onward with irresistible fury, and ever and anon overflowing its banks where there were low grounds, carrying with the current, fences, palings, garden products, and sweeping away the surface soil. At the Dynnyrne Saw Mills the lower portion of the premises, and the entire timber yard, were inundated to a depth of several feet, the fences and a considerable portion of the timber being washed away. Prompt assistance was given here by the neighbours, and a gang of prisoners, who rendered valuable services in removing the timber and workmen's tools to the higher ground, where the swollen waters could not reach. Mr Elliott's tannery was surrounded by the raging stream, and the wash-sheds at the rear, with skins and contents, soon disappeared before the rushing waters. At the Cascades Factory a large wall in front of the buildings, which on previous occasions had suffered from the action of the stream was entirely washed away, but with this exception the damage done was but very trifling. At Messrs. Degraves' Brewery the lower portions of the premises were inundated but comparatively little damage was done. In the upper portion of the town, for a time, between two and four o'clock, the streets were almost inundated, the streams of water instead of being confined to the channels at each side of the streets covering a large portion of the footpaths and roadway, and stopping up the mouths of the sewers with mud and gravel. In Davey-street a small rivulet ran down both sides of the street, and the gravel and screening was entirely washed from the footpaths and roadway. A large tree at Heathfield, the late residence of the Hon. J A Dunn, Esq., MLC, was blown down, being broken right across at a distance of five or six feet from the ground. This occurred a little before three o'clock in the afternoon. The tree fell at right angles to the street, reaching to the middle of the roadway. Fortunately, there was no one in the immediate vicinity and no casualty occurred. Later in the day another tree further down the street growing at the premises occupied by Dr Richards was blown down, but it fell within the limits of the garden.

BATTERY POINT.

As Battery Point is situated on rising ground the houses in this locality suffered very little from the floods, but in one or two of the lower streets the cellars and ground floors were inundated. Swift-flowing currents ran river-ward from Battery Point down Montpellier Retreat, and Kelly, South, and Runnymede-streets, towards the New Wharf. On the other side of the hill swollen currents swept along Cromwell, Sloane, Trumpeter and Mona-streets, as also down Secheron Road and Hampden Road, in the direction of the Castray Esplanade.

SANDY BAY RIVULET.

The upper portion of this mountain torrent presented one mass of foam, as its waters dashed downwards from the Reservoir, the embankments of which burst some months ago. Even on that occasion the residents on the banks of this rivulet affirm that the volume of water, which swept the gardens of Sandy Bay, carrying the fences and horticultural products to the Derwent, was less than that which yesterday rushed headlong down the rivulet's course, overspreading the gardens below the bridge at the toll gate on the Sandy Bay Road. A little higher up the rivulet, in Digney's Lane, a substantial looking bridge was erected some years ago, spanning the rivulet and with an arch as was supposed sufficiently large to admit of the passage of the largest rush of water that was ever likely to flood the rivulet. This bridge has been carried away, and as it would appear, through the basement having been undermined by the action of the swollen current. One or two smaller bridges for foot passengers have also been swept away. A small hut which stood in the angle on the left bank of the rivulet, and which for several years past had been occupied by an old woman named Mrs Curtis but who is now we understand, an inmate of the Cascade Pauper Asylum, was entirely swept away.

BROWN'S RIVER.

The ford here was impassable from the early hour in the day, and the river was swollen to such an extent that it reached far beyond its usual boundaries.

THE WHARVES.

Torrents of water which the sewers were incapable of carrying off, flowed from the higher parts of the town towards the New and the Franklin Wharf, inundating the thoroughfares, and rendering them impassable, so far as regards pedestrians, for two or three hours during the afternoon. The streets bounding the Constitution Dock were also flooded to a depth of several inches.

GLENORCHY.

Very serious disaster has to be recorded in this locality, and the devastation, we regret to say has been attended with loss of life, a man named Moran in the employment of Messrs. Wright and Co. having been carried away by the flood in the endeavour to save the property of his employers by removing some logs which threatened it. The properties of Messrs. Wright, Reed and the Rev. Mr Symons, have also suffered much injury, the whole of the extensive hop grounds of Mr Stephen Wright being completely inundated. The residence and grounds of the Rev. Mr Symons was almost entirely submerged, the water being up to the eaves of his cottage and he and his family being compelled to seek refuge at the residence of Mr H Hopkins, New Town.

NEW NORFOLK.

In this locality the floods were of almost unprecedented violence. At the Sorell Creek the water was flowing clean over the bridge, and masses of trees and other debris flowed over it. Nearly the whole of the

road between Bridgewater and New Norfolk was under water, and the hop grounds of Messrs. Terry and Riddoch were completed submerged. It was deemed unsafe to despatch the coach from New Norfolk, and the mails, which were sent on horseback had to perform a long circuit by way of the Dromedary.

MISCELLANEOUS.

By five o'clock the flood had begun to subside, but a great deal more rain fell during the night. As the obstructions had been so thoroughly removed, it was not anticipated that much further damage would ensue. Compared with the floods in 1854, there was a much heavier rush of waters, and had not some of the obstructions that formerly existed been removed, and alterations made to the creek by way of widening it at certain parts, the damage would have been enormous. As it is, it must occur to every one how dangerous it is for the Corporation to permit so many buildings, out houses, etc., to be erected on the creek. It is what we have been trying to hammer into the head of the Municipal authorities for years past, that the creek should be divested of all obstructions, and be adapted for the purpose for which it is naturally intended.

The Launceston coach arrived last night at about 8 o'clock. The roads generally were reported to be flooded, and a good deal of fencing had been washed away. At Jericho the water was said to be up to the horses' girths. The up-coach was signalled as having passed Oatlands at the usual time. At Ross the water was reported to be five feet over the road.

There were all sorts of rumours afloat as to casualties, among others was one that four children were missing, but we were unable to discover any truth in it.

FLOODS IN THE COUNTRY. (BY ELECTRIC TELEGRAPH.) (FROM OUR OWN CORRESPONDENTS.)

NEW NORFOLK.

Tuesday, 8 P.M.

The Lachlan River is heavily flooded. Numbers of sheep and quantities of hop poles have been carried away. Several of the hop gardens are much damaged. The bridge approaching New Norfolk from Hobart Town is considered in great danger, Sorell Creek is impassable. It is still raining.

HAMILTON.

8 P.M.

It has not ceased raining since 12 pm of the 3rd. The rivers Ouse, Clyde, and Derwent, are rising with great rapidity.

BRIGHTON.

8 P.M.

The Jordan is much flooded, and is still rising. The flood threatens to be higher than that of a few years since. It is still raining heavily.

GREEN PONDS.

It has been raining hard all day, but no damage has been reported as arising from floods beyond the carrying away of a few fences. It is raining hard now.

MELTON MOWBRAY.

It has been raining in torrents since last night, and the rivers and streams are flooded in all directions. Melton bridge is under water, rendering it dangerous for travellers to cross.

The Woodlands establishment is literally submerged. Three men on the estate narrowly escaped drowning, having been carried away whilst crossing in a chaise cart.

OATLANDS.

It has been raining incessantly since ten o'clock last night. Lake Dulverton is fast filling up. The main road near Mr Weeding's is flooded for about 60 yards.

ROSS.

At 6 pm, the flood was higher than when Mr M'Cracken was drowned. The water was rushing six feet deep across and along the main road, but is now decreasing. Page's stables and several houses are flooded. The mail coaches cannot cross to-night.

CAMPBELL TOWN.

The Elizabeth River is in flood and still rising. It has been raining for two days. The inhabitants of some of the houses near the river have been obliged to clear out.

LONGFORD.

There is no flood here. The river has scarcely begun to rise yet.

The Mercury, Thursday 6 June 1872

Microfilm records, State Library of Tasmania

THE FLOODS.

FURTHER PARTICULARS.

We have to supplement the details of the ravages of the flood, published in yesterday's issue, by further particulars: It is to be feared we have yet to receive more disastrous intelligence from different parts of the country. The rains and consequent floods have evidently been general, and there can be little doubt that immense damage, in the aggregate, has been a result. We may mention that the subsidence of the flood in Hobart Town commenced on Tuesday evening, although the rain continued, and the wind blew strongly to a late hour. A wall at the rear of Mr Brownell's, Liverpool Street, and another wall, behind Mr Winter's, Elizabeth Street, fell in the evening. Yesterday there was a gradual and an acceptable change. At 8.30 am the wind was reported as SW fresh; at noon, SW, moderate; and at 4pm, calm. The barometer, which read 29.30 on Tuesday afternoon,

has risen at 4pm yesterday to 29.90. The day was a delightful one, and people gladly availed themselves of the opportunity for outdoor exercise.

GLENORCHY — IMMENSE LAND SLIPS.

In addition to the few particulars which we gave in our yesterday's issue, we have now to record a far more disastrous visitation in this locality. The residents in the vicinity of O'Brien's Bridge [locality 3, fig. 1] were at a late hour on Tuesday congratulating themselves on the belief that the worst danger had passed, and hailing with satisfaction the gradual subsidence of the waters in the creek, when at about half-past ten o'clock a dreadful dull rumbling sound, a heavy smothered crash, and a deafening roar of flowing waters, gave evidence of some unusual convulsion of Nature. Those who had not retired to rest started to their feet in alarm, whilst many who had sought repose after the fatigues and anxieties of the day's work in protecting their premises from destruction, hurriedly attired themselves and issued from their dwellings anxious to ascertain the cause of the shock. The night was intensely dark, and the inhabitants of the village were soon all astir congregated in groups, and dull forebodings passed rapidly from one to another as to the unknown, invisible danger which threatened them. Preparations were at once made for the saving of life and property, those having tenements on the low lands leaving them and taking with them such property as they could secure. About an hour after the sound was heard that caused so much consternation, the waters were heard approaching with a dull rumbling sound. An immense wall of it was seen in the darkness to be coming on, bearing onward with irresistible force everything with which it came in contact. Eyes which had now become accustomed to the darkness, saw borne on the foaming torrent, huge masses, consisting of trees uptorn by the roots, and bearing with them branches of others, tangled undergrowth, dead timber, masses of rocks, portions of broken buildings, and other debris all mingled, tumbling one over another in a most grand but terrible confusion. Houses substantially built were carried away like wooden matchboxes, and the furious flood burst from the inadequate creek channel, and forced for itself new passages over the cultivated ground. Land which had hitherto had entire immunity from inundation was suddenly covered to a depth of many feet; and trees, dead timber, and other drift, finding obstructions, piled itself in gigantic heaps, resembling hastily constructed barricades. The light of morning was never more anxiously awaited then by the watchers through that fearful night, and when dawn broke it revealed surroundings which told in the most forcible way of the desolation which has been wrought in the few previous hours. Hundreds of acres of ground which a day to two before had gladdened the eye of the traveller as he passed through the picturesque village, and admired the trim and neat appearance of the gardens and the luxuriance of the hop grounds and orchards, were now a desolate waste of mud and silt, with sheets of turbid water lying in patches over their surface, and trees of immense size cumbering the ground at short intervals. A glance to the left disclosed the cause of the previous night's alarm. Those familiar with the scenery at the foot of black-browed Wellington at once discovered an appearance entirely dissimilar to that which had hitherto met their eyes as they had daily wandered round the horizon. A great land slip had occurred. One immense mass of fallen earth of a dusky brown intermixed with a yellow clayey material met their view, and another similar, but a much smaller one, was to be seen where, the previous evening, only verdure clad hills were visible. It is impossible to adequately describe the altered appearance of the locality and the dire destruction which has visited the property holders. On the estate of Mr. Murray thousands of tons of wood are to be seen spread over the ground. His property of Murray field [locality 5, fig. 1] has suffered to an extent which at present it would be difficult to estimate. His manufactory has been thrown down, and the vinegar and candle works and appliances by which he carried on his business, entirely destroyed. The bridge has been severely assailed. At the present time a huge denizen of the forest some six feet in circumferences lies stretched entirely across the creek and jammed against the bridge. One of the centre stays has also given way, but the bridge still seems tolerably secure. When the flood came down, the bridge was completely submerged, the archway became choked with the debris, and the water escaped over both sides and covered the road to a depth of several feet. Of the sudden and furious discharge of the destroying element, the land slips, were, it is conjectured, the primary cause. Of the extent of these, various and widely different estimates have been made, but that they have been of very great extent, admits of no doubt. They occurred amongst the subsidiary hills at the base of Mount Wellington, and about six miles from O'Brien's Bridge. The earth has not slipped in one mass, but in two distinct divisions on either side of the gully which forms the source of the creek crossing the road at O'Brien's Bridge. Those familiar with the conformation of the country in the locality of the hills mentioned, will understand that behind those hills, and lately enclosed by them was a natural basin, and it is supposed that during the heavy rains a vast area of water was here collected, which forced away the immense wall of earth and carried down with it the masses of trees, rocks, dead logs, and debris, which created such destruction as it deluged the low lands in the ungovernable fury of its onward course. This view of the catastrophe is borne out by the fact that over the dark soil of the land slip which presents itself to the spectator, and even at a distance of six miles the water may be still seen in several places where it has cut its way into the fallen bank of earth and still continues to flow in reduced volume over it. It would of course with the very insufficient data which we at present have at command, be impossible to judge with any degree of accuracy of the extent of these land slips. From

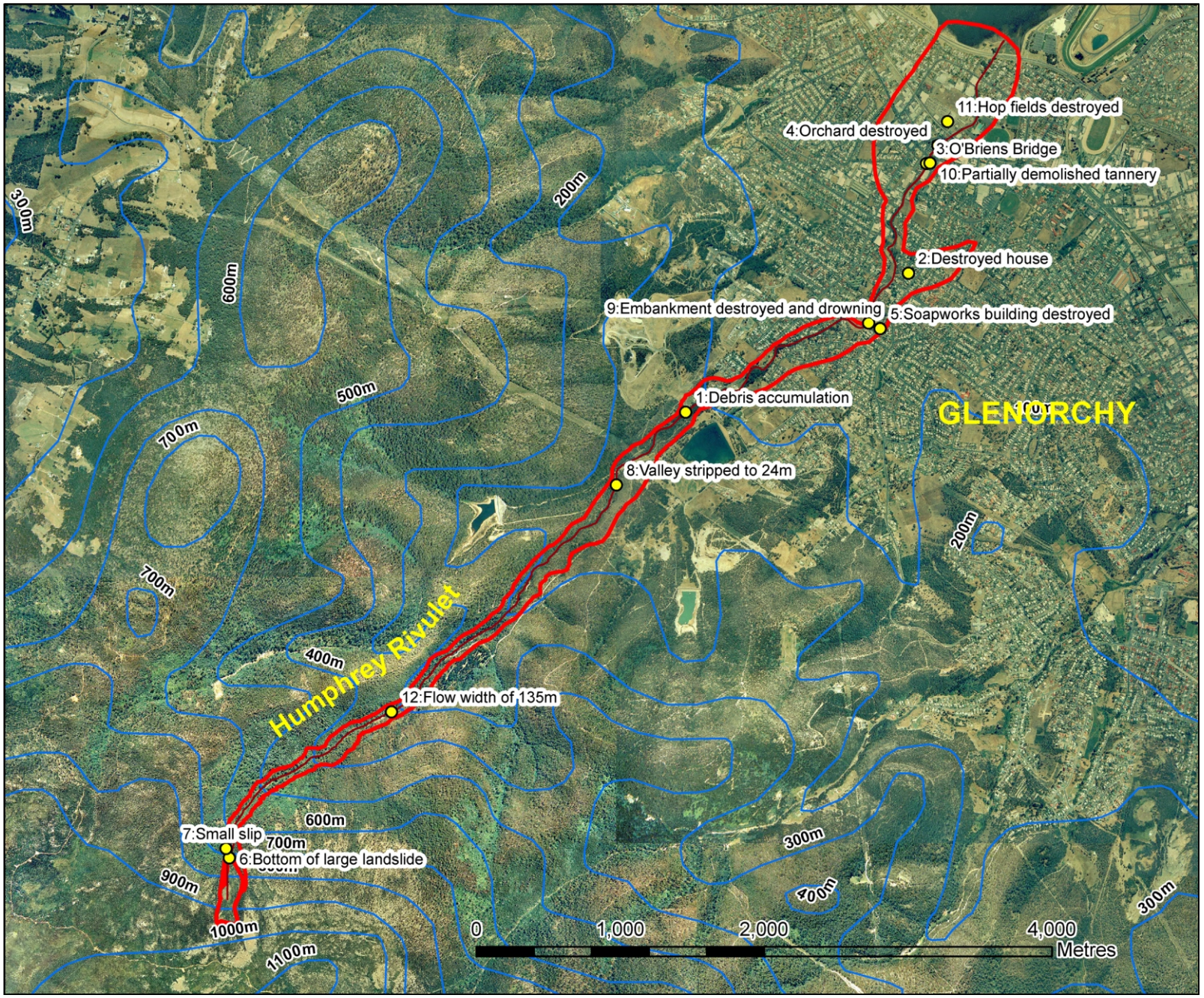


Figure 1.

Map showing observation points (see text) and probable limits of affected area. Orthophoto from Department of Primary Industries and Water.

observation the first would appear to extend in one direction for nearly a mile, and the area of earth has been variously estimated to contain from 200 or 640 acres of land. The second slip on the further side of the creek is of much smaller proportions, and not much more than half of the magnitude of the other. In order to convey some idea of the noise produced by the land slip, it may be mentioned that it was distinctly heard at Risdon ferry some nine miles distant.

In the hurry of collecting particulars of yesterday's floods in this locality, a mistake occurred by which the name of a man drowned at O'Brien's Bridge was given as Moran, and he was stated to have been in the employ of Messrs. Wright. The unfortunate man who lost his life was named Andrew Ranaghan, and he was employed by Mr. Murray as foreman. In the endeavour to save his master's property, he was, on Tuesday afternoon, with some others, engaged in attempting to make more secure a wooden embankment which kept the water in the creek from flooding the premises [locality 9, fig. 1]. With this object he took a chain, and clambering over the barrier was in the act of fixing it on the side abutting on the creek, when the barrier suddenly gave way, and falling on the poor fellow he was borne down under the turbid waters, never rising to the surface. He was an excellent swimmer, but, of course, could not bring his powers into use. The poor man leaves a wife and eight children. We have been unable to gather the whole of the particulars of losses in this locality, but append a list of the principle ones. Mr. Murray has been by far the greatest sufferer, the whole of his manufacturing works being destroyed, his lands submerged, and thousands of tons of fallen timber and other debris scattered over his ground. A large portion of Mr. Thos. Laing's premises were carried away. Mr. R. Shoobridge had a portion of his house destroyed, and his grounds partially inundated. Mr. Edwin Morrisby, miller, has had his private bridge and mill race washed away. His brother, Mr. Tasman Morrisby has a portion of his garden destroyed. Mr. Isaac Wright has suffered extensively; the walls of his tannery [locality 10, fig. 1] are gone and the tan pits filled with debris. Mr Stephen Wright, on the opposite side of the creek, had five acres of hops destroyed [locality 11, fig. 1]. A house occupied by Mr. Cane, on the estate of Mr. Murray, was completely knocked in, and Mr. Cane had only time to make his escape without an opportunity of dressing. The Rev. Mr. Symons was not so severe sufferer as was reported to us yesterday, the water only rising a little over the doorstep. Of Mr. John Oswald's four-roomed cottage not a vestige is left, and an enormous tree now marks the spot which, on Tuesday evening was Mr Oswald's bedroom. Of the wholesale devastation which is visible on every side it would be extremely difficult to convey an idea, and the dwellers at Glenorchy and in the vicinity of O'Brien's Bridge will long have cause to remember sadly the floods of June 1872, and the landslips at Mount Wellington.

We regret to state that the splendid garden of Mr. H. Cook was flooded by the waters of the creek, which washed away a quickset hedge and then overspread the garden, which is about 3½ acres in extent. Yesterday the whole area of the land presented the aspect of a foaming sea. All the valuable trees are destroyed. Mr. Cook was a large sufferer by the flood of 1854, but the damage now sustained is unprecedented and greatly discouraging.

The Mercury, Friday 7 June 1872

Microfilm records, State Library of Tasmania

THE FLOODS.

GLENORCHY — THE LAND SLIPS.

The marshy state of the ground and the numerous mountain torrents render it impossible to get sufficiently near the scene of the recent land slips in this locality, and hence no accurate estimate can be formed of their extent. A stream of water still continues to pour over the dislodged earth, but its volume has materially diminished. The damage to Mr. Murray's manufacturing buildings [locality 5, fig. 1] has been found to be not so severe as at first reported. The buildings used for the manufacture of candles and vinegar have not been destroyed but are still standing, although the former are surrounded by a densely packed mass of dead timber. A portion, consisting of one corner of the building used as a soap manufactory and store-house was carried away, but this, it is anticipated, may be easily repaired. Mr. Calloway, Mr. Murray's manager, has a large body of men vigorously engaged in removing the timber and other obstructions, and expects to be able to proceed with the manufacture of candles on Monday morning next. On the night of the great flood two young men employed by Mr. Murray, and a son of Mr. Calloway, had a most miraculous escape. They were watching the waters of the creek when the great wave of water came down and overtook them. They were knocked down several times, and with difficulty regained their feet. Two of the young men found security on some higher ground, and had already reported to Mr. Calloway that his son had been overtaken by the waters. Young Calloway had, however, clambered on to a cattle shed, and from this afterwards climbed into a gum tree, and remained in this perilous position some three hours. During this time his parents were in a most anxious state, but were at length re-assured by their son announcing his safety. No efforts could, however, by made to relieve him till the waters abated. Mr Calloway describes the descent of the waters as most terrific, the noise caused by the enormous boulders as they came crashing down the creek, being likened to the discharge of a hundred pieces of heavy ordnance. Trees from 50 to 100 feet long and six or seven feet diameter at the butt, are strewn all over the ground. An embankment built to protect Mr. Murray's property, the piles having been shod with iron and secured with iron rods, and which was considered an impregnable barrier to any flood, was carried away for over thirty yards of its course,

and it was when this gave way that the lives of the young men mentioned above were placed in jeopardy. Some of the houses on Mr. Murray's estate have been miraculously preserved by the barricades of wood which accumulated before them. Large logs coming down became in many places fixed and by this means other timber piling itself caused the diversion of the water, and saved, besides Mr. Murray's buildings, several dwelling houses. This was observable in two or three instances, the piles of timber forming closely packed walls around three sides of many of the cottages. Mr Murray's garden, which before the flood was in a most flourishing state, and contained many choice and prolific fruit trees, has had the top soil washed away, boulders and drift timber remaining. The hut of a man named Craig was knocked through by heavy trees in three places. At Mr. Stephen Wright's as we mentioned yesterday, immense injury has been done, and further examination discloses greater disasters. The top soil has been carried away over a large area, and the ground, in many places strewn with rocky boulders, has a slight resemblance to the ploughed field on Mount Wellington. The creek at this point has made for itself an entirely new channel, running through the properties of Mr. Isaac Wright, and Mr. Cook, instead of in its old course [locality 10, fig. 1]. A number of men were yesterday engaged in putting Mr Isaac Wright's tanneries in order, and others in clearing the road and bed of the creek at O'Brien's Bridge. A party of men were out searching for the body of the unfortunate man Andrew Ranaghan, but without success. Barrett's store was one of the places flooded on Tuesday night, about a foot of water going into the shop Tuesday night, about a foot of water going into the shop and filling the cellars. The road at this point is still covered some inches deep with sludge.

The Mercury, Monday 10 June 1872

Microfilm records, State Library of Tasmania

THE LAND SLIPS.

A correspondent writing from Glenorchy on Friday, says:—

Yesterday four of us started to follow up the gully down which the fatal O'Brien's Bridge deluge poured. Those who knew the gloomy, densely wooded ravine prior to the descent of the water, will be astonished when they see it again. From the bed of the creek, for perhaps 80 yards up, each hill-side has been swept of every tree, and the ground is covered with silt and sludge in which stones, rocks, fragments and nearly whole trunks of trees lie tossed together in supreme confusion. For over a mile from the foot of the great slide the course of the water had a slope of at least 30 degrees. The timber met with along here, presents a singular uniformity of appearance. Every branch and root has been shorn close to the stem, the bark stripped off, and a large proportion of the surface wood feathered up into fine splinters. One green trunk, about 30 feet long, and perhaps 4 feet through at the base, attracted our particular attention. It is split for about half its length, and three considerable logs remain wedged in it. A little above where this log lies, my companions judged the torrent must have been at least 150 yards wide, and perhaps 70 feet deep [locality 12, fig. 1]. The edges of the stream are lined with shattered timber. Large trees, standing many yards above the water mark have been struck high up, their branches rent and bark torn off, apparently by the logs which the water hurled along. One spot, on the left as we ascended, seems to have been passed over by a water spout. Trees have been torn up and smashed, the naked trunks of others left, blotched with muddy splashes, and large mud-covered stones scattered among them, yet there is no sign of water having overflowed the ground.

What is spoken of here as the "small landslip" appears to be on the clearance made by the surging of the water when its course was arrested by the hill which faces that down which it poured. The so-called small slip is exactly opposite the large one. If the winding course of the valley permitted, it would be seen from the main road that each side, for some distance downwards, is bared almost as high up from the bed of the creek.

The aspect from the foot of the great slide is inexpressibly grand and awful. Its distance from O'Brien's Bridge lends it an appearance of smoothness, which leaves the observer quite unprepared for what will meet his gaze when he enters upon the scene itself.

By the time we reached this spot, our party was reduced to two. Mr._____ and myself climbed to within what he thinks was 150 yards of the head of the great slide, when a fog began to shroud the top, and obliged us to descend. The course we had traced by eye from below bade fair to lead us right out, and it was disappointing to be obliged to return without reaching the top. The journey up and down is one not likely to be forgotten.

The Mercury, Tuesday 11 June 1872

Microfilm records, State Library of Tasmania

THE LAND SLIPS. — A visit to the locality of the recent Glenorchy disaster, made yesterday, showed the course taken by the devastating torrent, which swept down upon the unsuspecting inhabitants of the district on Tuesday night last. The aspect of the gigantic convulsion which has occurred, viewed from the road at O'Brien's Bridge, conveys but a faint idea of the wonderful magnitude and destructive effect produced a few miles distant, the apparently smooth, level surface, which presents itself to the eye of those travelling along the road being, on a nearer approach, changed to rugged, rocky, and uneven banks, while the mountain sides are utterly denuded of vegetation, and rent and channelled by the many torrents which have occurred down their dusky sides. The site is of the grandest, although most terrible description. A pressure on our space compels us to hold over a detailed description, which will appear in to-morrow's issue.

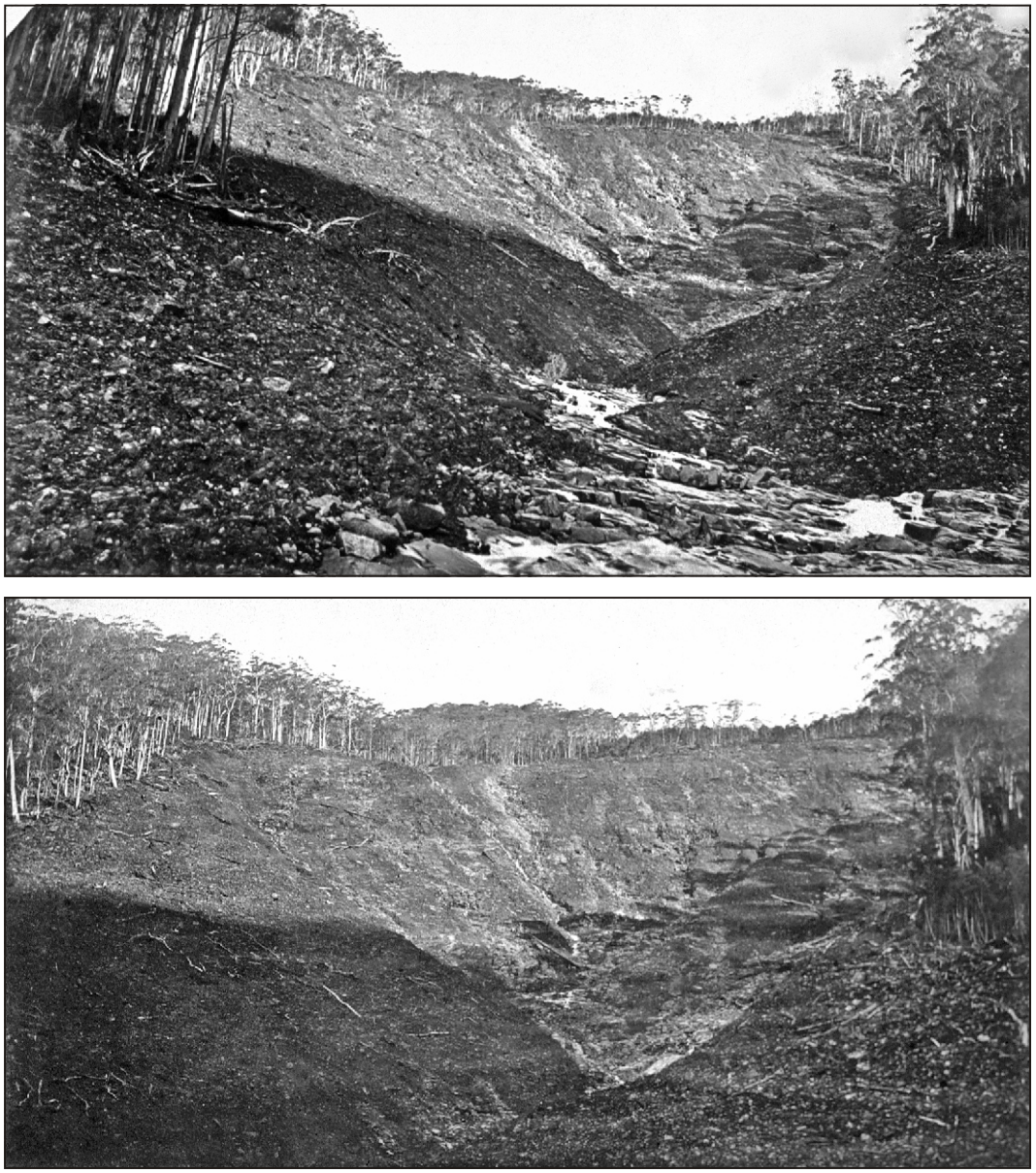
The Mercury, Saturday 15 June 1872

Microfilm records, State Library of Tasmania

The Mercury's own reporter furnished the following description of

THE LAND SLIPS.

Alighting at a spot known as the Dusty Miller lane, I at once commenced to equip myself suitably for the journey I had before me. I had been warned by a gentleman who had already paid a visit to the "slips", to attire myself in my worst clothes and my stoutest boots, and anyone who had met me when I was thus equipped would, I think admit that I had bettered the instructions. Passing along the Dusty Miller lane, and over the property of Murray-field, the locality embraced in previous descriptions, I at length, after going through much soft sludgy matter of the consistency of pea soup for some distance, arrived at the residence of Mr. Stansfield, about a mile and a half from the main road, and here met Mr. Betts, a gentleman familiar with the country, and who had already twice visited the locale of the land slips. He courteously placed his services at my disposal as guide, and further modified my travelling costume to fit with the experience gained by him of the necessities of the route we were about to travel. We then started on our journey, proceeding up the bed of the channel made by the recent flood. About a quarter of a mile from Mr. Stansfield's, after passing huge stacks of timber piled over the level ground, extended for some distance from the creek, we arrived at a spot known as the Junction [locality 8, fig. 1], and to give me some idea of the transformation effected in the creek down which the flood waters had travelled, my companion drew my attention to the other stream which formed, by its confluence with the watercourse we were following, this junction. Here, running due east, was a small mountain rivulet, into which a tiny rill of sparkling water found with difficulty its way over the weather worn and discoloured rocks and through the tangled undergrowth to the main creek beneath. Contrasting this with the other branching watercourse down which the mighty torrent had passed, and which took a north-east course towards the mountain, the change effected was shown by the difference exhibited in the comparison. Before the flood, the waters of the stream we were now following ran through a densely timbered, narrow gorge, thick with tangled ferns and almost impenetrable scrub. But all this was now changed. The timber had been completely cleared away, and with the fury of the torrent thrown with wonderful power back against the sides of the creek, and wedged into the earth of the bank. The channel now exhibited the appearance of a newly formed railway cutting, its bed being almost level, and about 22 chains wide. The singularly systematic manner in which the piled wood had formed its barriers as if to confine the waters, is truly remarkable, and the appearance of the creek bed here is similar to what would be seen on public works where extensive machinery had recently been employed in excavating and clearing a track for a road or railway. Passing along further we came, about three quarters of a mile on our course, to a rocky basaltic formation familiarly know as the Black Rocks, and here a very striking illustration of the herculean force of the torrent is exhibited. At this point an enormous mass of the rocks extending for about thirty feet along the course of the creek and 16 feet backwards into the bank, had been hewn down, as though quarried out by the labour of many men, and by means of blasting or other mechanical appliances. This mass of stone had fallen into the creek and some of it lay in huge misshapen blocks some distance down its course, while others stood where they had fallen, poised with mathematical nicety on smaller stones, acting as ponderous obelisks and monuments of the catastrophe which had so suddenly disturbed them from their long resting place. Pushing further along, our course became increasingly difficult, but the devastation and weird grandeur of the scene was also enhanced. The loose boulders lying in the bed of the channel were rounded and polished by the action of the water, and their smoothness in some instances almost suggested that the ingenuity of the lapidary had been brought to bear upon them. Continuing our course up the gorge, the height to which the water had reached, as marked by the absence of vegetation on the precipitous banks of the ranges on either side, became gradually greater, the comparative narrowness of the channel and the fact of the immense wall of water having a more confined area, causing it to reach a height, at this point, of at least 50 feet perpendicularly. But high over the flood level, the trees on the hill sides exhibited far up their stems traces of injury and ruin. Their trunks, to a height of some 50 feet above high water mark, were seen to be denuded of branches, their bark stripped off, and they were scarred and indented by having come into violent contact with some passing object. These abrasions on the trees above water mark have evidently been caused by the heeling over of some of the Titanic denizens of the forest in their headlong course down the turbid torrent. A singular circumstance in connection with the progress of the waters, and which goes to confirm the opinion as to the sudden release of an almost incalculable body of the destructive element, is the fact that, in forcing its way through the chain of hills from the mountain to the head of the creek leading to O'Brien's Bridge, the onset of the flood was so rapid as to temporarily prevent it finding in its downward course its level. Thus in many instances the mark of the water is on one side many feet above that on the opposite, and where one spur is entirely swept of its timber, the other side has escaped uninjured, thus showing how various and fantastic were the forms into which this huge mass of water shaped itself as it bore down the natural barriers which opposed themselves to its terrible progress. As we penetrated further up the winding valley the channel again widened out, its precipitous banks on one side consisting of a rich chocolate alluvial soil, and on the other of a rocky



Plates 1, 2

Photographs of the valley of Humphrey Rivulet showing clearance of vegetation caused by passage of the debris flow. Position uncertain. Photos reproduced with permission of the State Library of Tasmania.

basaltic formation, overgrown with scrub, and covered with moss and lichens, with huge fallen logs and dead timber, distributed high up and strewn along its banks. The whole channel was here encumbered with enormous boulders, trunks of dead timber and green trees. These trees were literally stripped root and branch, and their long stems bore the appearance of having been scraped with knives, in a manner similar to that adopted in preparing spars for ship building purposes. Interspersed with these rocky fragments and masses of timber, were huge sludge beds where the surface soil washed from the hill sides had accumulated; and we were compelled to exhibit much caution in avoiding these quicksands, as although they seemed to present a hard surface, my companion assured me that if I trusted to them, I should be "taken in" in a double sense. The area of cleared ground increased on our nearer approach to the primary cause of the disaster, and the space at this point (about 3 miles and a half from Mr. Stanfield's), could not have been less that 350 yards across the valley, and the depth of the torrent at least 80 feet perpendicularly. We had now attained a considerable altitude, and we paused to take our bearings, and look back down the tortuous valley which we had ascended. The delightfully cool mountain air blew in perfumed breezes, and resting on a jutting rock on the hill side we took a deep draught of "God's glorious oxygen" as we admired the landscape scenery in the vicinity of O'Brien's Bridge, seen through the vista which opened out before us. Mount Direction stood in the distance, an imposing background, with its sun-flushed summit and its sombre slopes wreathed in vapoury mists of dark blue, while along the river's course hung festoons of fleecy clouds lightly lifting themselves in obedience to the increasing power of the sun's rays, and

disclosing the various green patches of meadow and upland which had remained undevastated by the waters, and which, by reason of the sinuosities of the noble stream which laved their shores, appeared like

"Summer isles of Eden
lying in dark purple spheres of sea."

Pursuing our journey we at length reached the locality of what has hitherto been called the small landslip, but which on a close examination appears to be no land slip at all [locality 7, fig. 1]. The bare hill side, which like the larger land slip presents such a peculiar appearance from the road side, has been caused by the rush of water down the mountain having, by reason of a projecting spur, been temporarily dammed back, and the impatient torrent thus held in check has stormed up the slopes of the ravine, and with mighty and resistless force swept the precipitous hill side and carried off the timber, surface soil, and vegetation, leaving it barren to a height of nearly 150 feet, and causing it to present the appearance at a distance of a huge fall of earth having taken place. That such however, has not been the case is abundantly demonstrated by a close inspection of the ground, as little more that a foot of the surface soil is washed away, and, above the height reached by the waters, the slopes are still fringed with a dense growth of forest and scrub extending in an unbroken line along the level reached by the flood. We had reached the foot of the "great land slip" [locality 6, fig. 1], and the valley now appeared entirely cleared to a width of nearly a quarter of a mile, the scene presented being one of the wildest which could possibly be witnessed. Stupendous boulders, gigantic tree trunks, splintered into matchwood, lay prone upon the slope of the ranges and buried in the numerous gullies and channels which had been carved out of the solid rocks by the fury of the torrent. Stones of immense size were to be seen embedded on the wood as though impelled from a Krupp gun or other mighty piece of ordnance. All was

"Ruin upon ruin, rout upon rout,
Confusion worse confounded".

Mr. Betts informed me that before the deluge which has passed over this locality, took place, it would have been almost impossible to have explored the valley we were now traversing, so heavily was it timbered, so dense the undergrowth, and so dark and sombre its depths — a place in fact, where the sun's rays never penetrated. It was now a chaotic ruin of rocky boulders, and dead and green timber piled in most admired disorder, and extending for a quarter of a mile in one direction. We now deliberated as to whether we should ascend to the top of the great slip, and being anxious to view this wonderful convulsion of nature from all possible points of vantage, and my courteous "guide, counsellor and friend," being equally enthusiastic with a similar object, we started up the face of the slide choosing those places where the water had washed the earth from the rocks as presenting a better and less treacherous foothold than that offered by the slippery shingle which composed the other portions of the slide. By jumping from rock to rock, using the holes cut in the rocks as stepping stones, and occasionally crawling on hands and knees, we at length, when about 1,500 feet above the sea level, reached the top of the slide or the comparatively flat table land forming the new surface of the mountain side caused by the slip of earth. This slopes at an obtuse angle up to the wall or face of earth, which is here disclosed, and which extends in a semicircle for about half a mile and exhibits a depression, from the original formation of the ground, varying from 10 to 25 feet. There is, however, nothing in the conformation of the country to adequately account for the collection of the immense mass of water that deluged the lower lying lands, and it appears almost certain from the appearances here presented, that some other supplementary natural disturbances must have been at work to produce the ruin here observable — such as the bursting of a waterspout over the locality, or the release of the waters of some subterranean channel, which, while pouring forth its pent up flood undermined the super incumbent earth, and brought down the rocks and timber, which now lie strewn over the surface and embedded on the fallen earth. That no water came from beyond, or, to make my meaning more intelligible, from the rear of the larger land slip, is abundantly clear from the fact that the whole margin of the hill-side above the slip has been undisturbed, the broken line caused by the fall showing a stratum of timber and decayed vegetable matter — a condition of the surface which had doubtless remained unaltered for many years past. As we gazed up to the face, or escapement caused by the fall, to the heights beyond, lighted by the rays of the sun, the sight was of the most grand and impressive description. The stillness of the air and bright refraction of light from the snow-capped summits of Mount Wellington afforded the most striking contrast to the murky scene of dire desolation in the midst of which we stood. To the left was a forest of blackened trees half burned away by bush fires, their skeleton branches now burdened with snow. The whole scene most vividly illustrating the lines of Tennyson:—

"A foreground black with stones and slags,
Beyond a line of heights, and higher,
All barred with long white clouds and scornful crags,
And higher snow and fire!".

After viewing the slips from this point, my companion and I decided to endeavour to reach the head of the great slip in order to, if possible, ascertain if any overflow of water had occurred from the heights beyond. With some difficulty we accomplished this. The nature of the country immediately above and beyond the head of the slip, and for at least half a mile back, does not encourage the supposition that any lagoon, large or small, could have a place at the top of the mass that has slipped away. It is composed of a field of rocks, with dense undergrowth and gnarled stunted trees growing between them. There is no trace

of any lagoon bank or bed, visible, and had one existed some portion at least of its upper side would have remained. The nearest resemblance to a swamp is fully half a mile distant, in a south easterly direction, and here we crossed many acres of native artichokes, and other vegetation usually found on perpetually damp ground, and where the melting snow had doubtless supplied the water we slushed through. Between the swamp and the head of the slips lies a "ploughed field" similar to that crossed by excursionists to Mount Wellington, but much less in area and composed of smaller, though rougher rocks.

Standing as close to the top edge as we could get, and fairly facing the centre of the slide, the following distinguishing features presented themselves. It appeared as though the end of a large rocky spur had fallen away. Assuming the entire cleared space to be divided into four equal parts, the lower three-fourths represented an inclined plane about six hundred yards long, three hundred wide, and sloped at an angle of about 45 degrees. The upper and remaining fourth exhibited a very rugged and irregular surface, was concave in appearance, and extended apparently from the wall to the edge of the steep incline previously mentioned, a distance of about three hundred yards, and across the valley about the same distance, and was sloped at an angle of about twenty degrees. The sides gradually decrease in height till their points or ends meet the top of this inclined plane. A later subsidence of rock and soil has destroyed the originally almost perpendicular character of the back wall of this hollow. The devastation caused to the trees and timber in this locality, and the entire absence of any evidence to account for the collection of the enormous wall of water which rushed down the ravines, and even in its half-checked fury inundated the grounds in the vicinity of O'Brien's Bridge, seems to favour the impression that some natural phenomenon such as a waterspout, or the sudden bursting through of an underground reservoir, caused this disaster, nor does it now seem that the sudden accumulation of such a vast body of fluid can in any other way be accounted for. The theory of a land slip taking place, thereby forming a dam across the valley, and thus storing up the drainage of the hills till it acquired sufficient volume to break through it, is, I think, no longer tenable now that it is seen that the debris fell into the head of the valley rather than across it. Besides this it is evident that the greater portion of the mass carried down by the flood consisted of rocks and trees. There seems only one course open when endeavouring to sum up the results of a visit to the locality of this now celebrated landslip, and that is to adopt the formula of coroner's juries in doubtful cases and say that a great land slip has occurred, concurrently with a devastating deluge of waters, but how the land slip was occasioned and how the flood waters accumulated there is not sufficient evidence to show.

Notes on the landslip at Mount Wellington, Tasmania

(Wintle, 1872)

On the 4th June, 1872, the colony of Tasmania was visited by the heaviest rainfall that has taken place since the flood of 1854. Within twenty-four hours (the usual period assigned for the computation of such meteorological disturbances) no less than 4½ inches of rain fell. It was a steady, thick, incessant, and most determined downpour for fully one-half of that time. On the following morning, while the citizens of Hobart Town were energetically exerting themselves to save life and property, news arrived that a landslip on a most gigantic scale had occurred on the previous night in the vicinity of O'Briens Bridge [locality 3, fig. 1] (which is distant from the capital five miles), causing loss of human life, and immense destruction of property.

Upon the rain ceasing, I started for the scene of the catastrophe, having been honoured by urgent solicitations from several of the residents of that locality to make a geological examination of the site. Upon arriving within a mile of O'Briens Bridge, a large yellow tract of the northern face of Mount Wellington, reaching nearly to the summit of that part of the mountain, was visible from the main road, at which at a distance of six or seven miles presented a striking contrast to the surrounding locality, in being completely denuded of that dense and gigantic canopy of vegetation which characterises what may be called its frame-work.

Although the accounts that had reached the city prepared the mind of the visitor for witnessing a scene of extensive ruin and desolation, I must confess that the mental picture that I had drawn of the scene fell very far short indeed of the reality, for chaos had come again in truth, as far as this part of the district was concerned.

The first thing that attracted my attention from the bridge was the immense heaps of timber and gigantic boulders that strewed the bed of the rivulet, and lined its banks on either side of the bridge, while to one who had become familiar with the modifying operations of water as a geological agent, one glance was enough to understand the terrible force that had been at work here.

It had been arranged through my friend Mr. Hull, Council Clerk for the district, who kindly placed his services as *cicerone* at my disposal, that I should attempt to reach the bottom of the slip on horseback, in company with several gentlemen of the neighbourhood, who well knew the locality. But at the appointed hour of starting the weather became unfavourable, and the project was abandoned for that day; I therefore had to be content with following my guide to the different points of painful interest in the immediate locality.

On the river side of O'Briens Bridge, where the land lies the lowest [locality 4, fig. 1] a terribly weird and wild scene presented itself. A vast, entangled, heterogenous mass of enormous trees, casks of wine, vinegar, &c., fences, agricultural implements, house-building materials, and rock masses covered the soil-swept locality for many acres. A fine orchard stocked with the choicest of fruit trees, covering some acres, had been most completely removed, and in its stead, had been deposited huge, branchless, barkless, rootless trees, ponderous fractured boulders of the adamantine greenstone, and gravel.

Startling evidence of the immense hydraulic force that had been in operation was exhibited in the transported boles of the great trees, by their being completely stripped of their bark, their branches, and their roots. A few hours since, they were growing in their towering grandeur on the great mountain's side, as though ambitious of emulating in altitude the rock which bore them. Now, they lay bare, battered, and broken, and hurled in heaps of dire confusion, miles distant from where they had grown.

It is well known that the blue gum tree (*Eucalyptus globolus*) is amongst the toughest of Tasmanian woods, a fact due to its labyrinthine grain, and yet a vast number of these trees (many of which must have attained a height far above 200 feet) had been snapped as short in the middle — to use an expressive vulgarism — as a carrot.

A portion of one of these trees, which I measured as it lay in the bed of the rivulet, near the bridge, was 99 feet in length, and 15 feet 8 inches in circumference at its largest end; and yet there was no sign of branches or roots. To such a pounding had it been subjected in its passage from where it grew, that both ends were rendered quite fibrous, so much so that one indulging in a little poetic imagination might regard these portions of trees as the stumps of brooms with which the Titanic gods had in olden times swept creation.

About half-a-mile from the bridge, in the direction of the mountain, my guide and companion drew attention to the ruins of a house which had been built by his ancestor, situate at a distance of about one hundred yards from the rivulet [location 2, fig. 1]. It presented a spectacle of confusion worse confounded — a truly heterogenous heap of broken bricks, shingles, shattered glass, pieces of furniture, onions, and potatoes embedded in a matrix of tenacious sludge. Driven through the south-eastern wall for several yards into the interior of the building, was a huge battering ram of a gum tree. This had done the work of demolition at a blow, and if anything by chance had been left undestroyed, it was accomplished by another tree of equal size being brought down and deposited at right angles upon the former.

On this side of O'Briens Bridge I found that the torrent had cut in many places a new channel for itself, and in so doing had exposed the crystalline carboniferous limestone formation of the district, which is replete with the brachiopodous fossil shells, typical of the period when these beds were laid down. Here, as in other parts of the island the *spirifera*, *productus* and *terebratula*, are seen in great abundance in association with the corals *stenopora*, *fenestella*, and others. For many a square mile, where the rivulet disembogues its waters into the Derwent, the area is occupied by rounded boulders of greenstone, basalt, limestone, mudstone, and sandstone; and overlain by tertiary drift and vegetable soil to a depth in some places of twenty feet, as shown by the late erosion. This bed of waterworn stones, which has a mean thickness of between two and three feet, has been regarded by some intelligent observers as being evidences of the existence of a large ancient river; but the fact seemed to be overlooked that such a river must have had an existence before Mount Wellington was formed. The truth is, this rivulet has been constantly altering its channel during such periodical floods, cutting into the bank on one side, and depositing material on the opposite side; and thus re-arranging the rounded stones, has travelled backwards and forwards from one hill boundary to the other through time immemorial.

Finding it impossible to extend my investigation further up the bed of the rivulet on this occasion, I returned to town, and the weather clearing up, I resumed my examinations a few days afterwards.

Starting from the point where I had "brought up" last, I followed the bed of the channel up to its source, where the landslip occurred. The blue, crystalline, shelly limestone, before mentioned, I found well exposed by the fury of the torrent for fully one mile from the bridge; here it became covered with greenstone, forming steep hills on either side of the gully, and which feature has given to the rivulet its very serpentine course. This igneous formation obtains for about two-and-half miles, at which point the limestone again appears in the bed of the channel, in conjunction with other sedimentary strata to be treated of hereafter.

Where the bed of the rivulet is occupied by the limestone *in situ*, it presents the greatest width, and as a consequence, the least incline. The clinometer gave a mean dip of 7° W.S.W. Here, therefore, as should be expected, the torrent began to deposit its great arborean freight [location 1, fig. 1]. In one place, where the channel is constricted for about half-a-mile by an eruption of greenstone, I observed a far more startling proof of the force which the deluge had exerted, than that, great as it is, afforded by the pounding of the leviathan trees. This consisted of sharp, angular fragments, or chips of the greenstone, which lined the sides of the rivulet to a depth of several inches. The water had here cut down through the old bed of the channel to a depth of four feet, depositing the gun-flint-like fragments of the hard rock on either side of the margins occupied by the undisturbed bed. Every boulder that I observed presented a fractured surface.

From where this greenstone first appears, up to the foot of the great "slip," both banks of the rivulet

present the appearance of a railway cutting through hills upon a gigantic scale. Trees and soil have been removed most completely to an average height of 80 feet. But what strikes the superficial observer as being a somewhat paradoxical feature, is the fact that wherever the water has reached to the height just named on one side of the rivulet, it has not left a trace of having risen to more than fifteen or twenty feet, at the most, on the opposite bank, a phenomenon which I will subsequently account for.

So tortuous is the channel of the rivulet from where the igneous rock first makes its appearance till the foot of the landslip is reached, that could both banks be made to meet, the hills, or projections, on one side would exactly fit into the curvatures on the other, like the sutures in a skull.

When the visitor has accomplished about four miles of real hard travelling over erratic boulders, in following up the bed of the stream, he comes to where the limestone, which he left in the lower regions, is again exposed in some good vertical sections by the removal of the overlying greenstone, but now it is seen in association with other sedimentary rocks. From O'Briens Bridge up to the foot of the "slip" there is a mean ascent of 10°, consequently, now, he has obtained an elevation of over 1000 feet. It is here seen that the shelly limestone is covered by beds of sandstone and mudstone, which strata have been removed in the lower regions. A most interesting feature is now presented by these beds having undergone metamorphism by contact with the greenstone, no uncommon feature where the trappean series of rocks abound, a fact that has been well noted and commented upon by my eminent friend and colleague, the Rev. W. B. Clarke, of New South Wales. Here I found thick-bedded sandstone to be the uppermost stratified rock of the district, and that it had been altered by fusion from the overflow of the molten greenstone into a semi-vitreous mass, which extended in depth from twelve to eighteen inches from the point of contact. As is frequently the case, not only had the grains of quartz been fused together, but the lines of bedding completely obliterated, while in some instances the original veining of the stone was preserved. Wherever this metamorphism was observable the rock presented a rhomboidal structure. This alteration is not solely confined to the sandstone. It is exhibited to an equal extent in the mudstone, limestone, and claystone. The faces of the sections of these rocks consists of a series of ledges which give to them a stair-like structure, this feature producing very beautiful waterfalls. It is plain that these strata presented the same surface, perhaps millions of years ago, that they do now, when the greenstone which forms Mount Wellington was injected in a molten state far down beneath the surface of an old-world ocean, for the metamorphism which they display could only have been produced by the molten mineral matter filling up the inequalities of their surface.

Another interesting fact afforded by these sedimentary strata is, that they prove beyond question that when the subterranean forces were in operation that produced Mount Wellington and the contiguous heights, very little displacement of such strata took place from the originally horizontal plane, for their mean dip is only 7° towards the mountain, showing that the last effect of the mutative force was to depress the strata towards rather than tilt it from the axis of the eruptive force.

These strata afford an excellent vertical section of the geological structure of this part of Tasmania. The following table gives their order of occurrence, and respective thickness on a descending scale:—

1. Thick-bedded variegated sandstone, metamorphosed at the surface, dip 70 deg. S.S.W., thickness 20 ft.
2. Arenaceous conglomerate, containing waterworn fragments of granite, quartzose rock, clay slate and micaceous schist altered at surface, thickness 10 ft.
3. Blue sandstone containing fragments of quartz, and a black cherty rock altered at surface, thickness 8 ft.
4. Coarse sandstone, altered at surface, thickness 11 ft.
6. Blue fossiliferous limestone, replete with brachiopodous shells and corals altered at surface, thickness 12 ft.
7. Dark claystone, altered at surface into a jasperideous rock, thickness 100 ft.
8. Greenstone covering the continuation of the above beds.

The whole of the above strata are conformable to the first-named and superimposed sandstone.

In approaching the foot of the landslip, we again lose sight of these sedimentary deposits for good, owing to their being completely covered up by the igneous rock.

I found the ascent by the rivulet's bed to be excessively laborious, inasmuch as it could only be accomplished by stepping from boulder to boulder, the interstices being filled with a tenacious yellow sludge. Upon arriving at the base of the "slip," a sight presented it self which is not likely to be ever forgotten. A large portion of the side of a mountain thickly clothed with huge trees and undergrowth, peopled by thousands of mammals, birds, and reptiles, had been hurled with a terrible force into the gully below, and thence swept by a resistless torrent into the sea. A large tract of yellow clay, strewn with the ruins of a dense forest, and gigantic masses of rock, stretched upwards to a height of more than a thousand feet. In many places deep channels had been excavated, and down which foaming torrents were rushing. I made the ascent by skirting the slip on the eastern side, a task of much difficulty, owing not only to the great angle, but also to the ground being covered with fallen trees and blocks of stone, the latter the result of landslips which had

taken place in bygone times. The clinometer here gave a mean angle of 37°. The mean angle of the site of the "slip" I subsequently found to be 31°. Upon gaining the head of it I found the greenstone presented a fissile structure, with a slope for some distance of 42°, at the base of which there is a broad terrace having an incline of only 5°, a high bank of incoherent drift, about 20 feet in depth, crowning all.

There had been many absurd theories propounded by the unscientific to account for this cataclysm, among which were the bursting of a waterspout and the disruption of a subterranean mountain reservoir; the waterspout being of the two the more popular. The *vera causa*, however, was to my mind apparent at a glance — in a word, complete saturation of the great depth of incoherent surface-soil, and undermining on the great slope of flaky rock. Nothing is more likely than that the debris of the detached mass would form an embankment at the terrace referred to, whereby a large body of water would soon be collected, which, bursting its bounds, would be precipitated to the foot of the mountain with a terrific rush, sweeping everything before it that offered opposition.

I have already remarked that on both boundaries of the rivulet the water had risen alternately to a surprising height, not only depositing the barkless trunks of huge trees along the edge of the water-line, but also snapping asunder standing trees, at a height in some instances of sixty feet from their base; and I must also remind the reader that I mentioned the cause of the serpentine character of the bed of the stream being produced by the slopes of the numerous trappean hills. Now, when the great rush of water occurred by the bursting of the embankment it would, upon striking the slope of the first hill, abutting on the rivulet, be deflected in a great wave on the opposite side, and thus after the motion of a pendulum would leave alternate traces of its devastation. Here and there are evidences of dams having been subsequently formed lower down the rivulet, where a more than usually sharp bend exists. Their formation and disruption must have been remarkably rapid, when it is stated that from the moment of the loud rush and roar of the water being heard up to the time when its force was spent on the banks of the Derwent, six miles away, only ten minutes elapsed. In that time all the ruin and desolation had been accomplished.

In looking at the battered and pounded condition of the forest giants with their cold, slippery, naked trunks, I could but think of the enormous quantity of paper-making material which must have been swept into the sea. One large blue gum tree, which had obtained a height of over 200 feet, had fallen across the gully and snapped in three places, although 5 feet 7 inches in its greatest diameter, where the first fracture occurred. Not far from this was another tree that had been split nearly its whole length, and into the fissure the trunk of a second tree had been driven.

I found wherever I went in the vicinity of this landslip, that where the surrounding slopes presented an angle of 30°, landslips had been of frequent occurrence in former times, and the debris subsequently overgrown with dense forests. In fact, there is not a part of Mount Wellington having such an incline, but what striking evidence of such mutations is to be seen. The well-known "ploughed" or "potato fields", erroneously thought by many persons to be strong proofs of past volcanic agency, are simply the result of landslips. The intense yellow clay that forms the subsoil of the mountain's side, I may observe, is the result of the decomposition of the greenstone. This igneous rock is composed of felspar and hornblende for the most part, and contains a very large percentage of iron. The felspar being a mineral, essentially consisting of silica, alumina, and potash, and being more readily decomposed than the hornblende, such decomposition has furnished the clay, while the iron, by combining with oxygen, imparts the reddish yellow colour.

In reflecting upon the quantity of organic material that has been swept into the estuary of the Derwent, the geologist is naturally led to speculate upon the future, and picture in his mind what an interesting bed of fossil bones, plants, and land-snails, may be discovered in future ages by some descendant of the present race (should it be preserved), while perchance in the act of sinking a well in a remote inland district on the spot where the river Derwent now flows. The altitude of the top of this landslip cannot be much less than 3000 feet above sea level.

Guide to Excursionists*

Anonymous, 1879; Tasmaniana Library

Landslip at Glenorchy

The landslip of about a hundred acres in extent is, especially in its consequences, a subject of more wonder than has hitherto been given to it. Travellers observe a long yellow line running nearly horizontally along the blue sides of Mount Wellington; and at a distance below this line is seen a large patch of yellow deposit, freed from trees and shrubs, which in the immediate neighbourhood grow to a very great height, and are of immense thickness.

In June, 1872, there had been an unusually large fall of rain on Mount Wellington, causing great destruction of property on the banks of the mountain streams. One of these streams is Humphrey's Rivulet, which is formed by the union of two branches of small streams issuing from gullies of the mountain, and are known as the eastern and western branches of the rivulet. It was on the borders of the eastern branch of the rivulet that the landslip occurred on 4th June 1872.

The heavy rainfall had saturated a considerable extent of the upper side of the mountain, where the almost impenetrable scrub was interspersed with enormous blue gum and other trees, and the gravelly soil easily absorbed the water till it reached the rock on which it stood. It then, owing to the steepness of the side hill,

slid down to the extent of a hundred acres into the narrow bed of the rivulet, taking with it thousands of trees, many of them 40 or 50 tons in weight, with the boulders of rock and clay, till it completely dammed up the rivulet, and kept back its swelling waters.

This dam increased in depth till it was 60 feet, causing an accumulation of water 300 yards wide and 60 feet high, and of a considerable length. About 11 o'clock in the morning the effect of this stoppage was seen from the front windows of *Tolosa* in the flow of the water in the rivulet three miles below the slip had nearly ceased, notwithstanding the heavy rain then falling. This continued through the day.

At ten o'clock at night, dark as Erebus, a concussion was felt as if a magazine of 100 tons of gunpowder had exploded; the country around was shaken; the noise was heard at Risdon many miles off; it shook the house of *Tolosa* which stands on a limestone rocky eminence, and down with the rushing torrent came thousands of tons of timber, trees, rocks and shrubs intermingled; the great trees holding among their roots large stones which had been there for centuries. These trees were thus torn up by the roots and hurled down with inconceivable force, their monstrous limbs and foliage buried and crushed with clay and soil, turning over and over in their rapid fall, and driven with the force of a thousand steam hammers.

At one level place where the descent became less rapid, there was an accumulation of trees like those described full 50 feet high, while the whole course of the Rivulet and its banks for 3 miles where strewed with the trunks and limbs of these giant mountain trees. It has been estimated that the timber brought down and left along the course would if built up have made a hill a thousand feet high.

Of all the huge trees brought down, none had its bark remaining, the great limbs were crushed, splintered, or broken short off.

In the course of the flood stood the cottage of Buntingdale, in the midst of a rich little orchard and garden in a delta of the bank of the rivulet, and high above all former water marks. A tree eight feet in diameter and a hundred feet long came end-on like a huge battering ram to the cottage and it disappeared forever, with the trees, flowers, and vines, with which it was covered and surrounded, and the bed of the garden was torn up to the primitive limestone rock on which the alluvial soil stood.

All this destruction took three quarters of an hour in its operation.

One life was alone lost, but gardens and orchards, outbuildings and fences, were rushed away to the broad bay of the River Derwent; and even now, so many years afterwards the thousands of large logs lying all along, mark the destruction line of the landslip, and carry the attention of travellers along it to the broad yellow line near the highest point of Mount Wellington.

[*Transcript from pages 61–63].

Round the Fireside: Reminiscences of an old Glenorchy resident

T. J. M.Hull, 1940#

On the fourth of June of this year 1940 was the sixty-eighth anniversary of the Great Flood, in the history of Glenorchy.

I call it the Great Flood, because in all the years that have passed since then, no flood (and there have been many) has ever come anywhere near in size, nor has it done anything like the damage to property as did this Great Flood of the year 1872.

THE WEATHER — The sky became overcast and a very strong southerly buster set in. The rain came down in torrents and kept on coming down day and night without a break for many days. Humphrey's Rivulet over which O'Brien's Bridge now spans was converted from a peaceful rivulet into an angry turbulent torrent, until eventually large boulders commenced rolling and grinding along the bed of the river making a noise like the roar of distant cannon. As the hours went by, the noise increased and the flood waters rose until most of the residents who were living anywhere near the rivulet, decided to vacate their homes fearing they would otherwise be washed away during the night. Well, the storm raged for days.

The climax came when at about midnight on 4th June 1872, with a mighty roar and crash that could be heard for many miles away, the side of the mountain gave way, carrying hundreds of thousands of tons of stones, large gum trees, scrub, logs, etc. This debris collected in a very narrow part of the rivulet, where the banks on both sides are high and steep, and before long a mighty dam was created. Eventually, this temporary dam had to give way to the great pressure of water behind it. This head of water with all that it had collected by way of trees, large logs, etc, came rushing down the rivulet and taking before it. Some of the logs and trees were about five feet in diameter, and one can imagine the destruction such a head of water would cause when racing down the steep side of the mountain. The residents of Glenorchy whose homes were on both sides of the rivulet had some very thrilling experiences. One family in particular (Thomas Lane's) who lived in a typical old English thatched cottage, not far from where the present Water Lane Bridge spans the rivulet. This cottage was completely surrounded by swift running flood waters, and the occupants were standing on top of their furniture while the angry water swirled through their house. Rescue parties were trying to reach them without avail. Finally, a strong draught horse was bought to the scene with the object of riding the horse through the flood waters to

Unpublished notes supplied by D. Fullard, Margate, to Glenorchy City Council, 2002

rescue the marooned people. However, the rush of water was too great, and the horse was soon washed off his feet.

AN ACT OF PROVIDENCE — When the landslip occurred, and whilst the temporary dam was being formed high up on the side of the mountain, naturally the flood water below the dam subsided. This proved to be the salvation of the Lane family. It allowed them time to escape from what had previously seemed certain death to them all. It was not long after they had vacated their doomed cottage, [when] the temporary dam gave way with a mighty crash. The noise could be heard miles away, many people thought it was an earthquake. This time the flood came down with a vengeance, taking all before it and Lane's cottage was swept bodily away. This incident reminds one of the Act of Providence shown in the Biblical story which tells how Moses and his followers crossed the Red Sea, and if one may digress for a moment of another act of Providence. Probably there are only a few people in Hobart who know why Providence Valley was so named (now Newdegate Street). Well the fact was, Mr. W. Shoobridge owned this valley in the early days, and one day when he was working in his garden, a bushranger shot at him. The bullet struck a carpenter's foot rule (which Mr. Shoobridge had in his pocket) and glanced off. Thereafter the place was named Providence Valley.

Another family by the name of Oswell, who lived opposite to where Messrs. Cruickshank Bros. now live, lost their cottage. A huge log went right through it. Fortunately the family had vacated it previously. O'Brien's Bridge was so named because a very brave and daring man, James O'Brien, with a long pole in his hand managed to save the bridge by deflecting the logs during the flood which appeared likely to destroy the bridge. This bridge was ever after known as "O'Brien's Bridge". If one of the large flood logs had struck the piles of the bridge, poor Jimmie O'Brien (as he was called) would have gone to perdition. However, I believe the residents of Glenorchy fittingly recognised his gallant act by way of presenting him with a gold watch and chain. When the flood waters overflowed at O'Brien's Bridge and went along the main road towards St. Paul's Church of England, and then turning down the present Agricola Street, and right on until it entered the Derwent. A boat could have been sailed on the low lying land where the present Glenorchy State School is situated. The Post Office in those days was where Hutt's Produce Store is at present. This low lying place was about two feet deep in water and mud. The huge logs and stones carried along so swiftly by the flood waters acted like battering rams against the walls of buildings etc., and wrought great havoc in a short time. The names of some of the residents whose homes were close to this rivulet were the late William Murray, Tasman Morrisby, Richard Shoobridge, and Henry J. Hull, each having gardens and orchards washed away.

William Murray's properties suffered mostly, such as Soap and Candle Factory, Wine and Cider Factory, Tannery, Hop Grounds and Orchards. Casks of wine were afterwards found in the Derwent, washed up on the beach near "Elwick" quite intact and some beachcombers had a very hilarious time whilst the wine lasted. There was only one sad fatality during the flood. Some workmen were trying to secure the piling of a bridge near Murray's Tannery when on of the (T? Ranahan) slipped and fell into the water. He was carried away like a cork on a stream. His body was afterwards found by John Wilkinson washed up on the beach near Elwick.

In those days, Elwick was the home of the late John Wilkinson, the founder of the present Wilkinson's Pharmacy in Elizabeth Street.

There was a very picturesque old flour mill on the bank opposite "Murrayfield" which derived its power from the turning of a huge water wheel. [It] was considered to be the largest wheel in the Southern Hemisphere at that time. This mill with the mill pond and water race, with its crystal like waters cascading over the wheel, and all surrounded by green grass and beautiful willows, made a very fine setting for an artist's [painting]. The old rustic bridge near the mill was washed away and deposited down stream. The late William Murray's work gave employment to many men and their families. Mr L. N. Murdoch's present home "Murrayfield" was originally the home of the late Stone Kellaway who was at that time Manager for William Murray.

Mr. Kellaway's wife kept a private school here for many years. This beautiful old stone building on the corner of the street with its large poplar trees near the front gate, is often referred to now by old residents, as Kellaway's corner. One can hardly imagine that such a small rivulet, as seen in the summer months, could change to such an angry torrent in the winter. The rivulet has its source on the low lying land near Collins Bonnet on Mount Wellington. In my boyhood, I often listened to the water running far underneath the huge rocks at the head of the spot now known as the Landslip! The water evidently collected here and eventually pushed away a huge slice of the mountain side. Grim reminders of the past (old logs) can now be seen at low tide, embedded in the sand on the beach near Elwick, having been deposited there 68 years ago.

Highway in Van Diemen's Land

G. H. Stancombe, 1968, p. 68

One would have thought that, after the liquidation of the bushrangers and the moonlighters, the little town would have settled down to an uneventful future, but one night in 1872 disaster befell the valley. Winter rains had filled the streams and saturated the forest, but more, it had loosened the soil on the steep slopes of the mountain, so that a great landslide carried huge trees, boulders and thousands of tons of earth into the bed of Humphrey's Rivulet some distance above the town, forming a dam some sixty feet high. The flood waters

rose higher and higher all day until, at one o'clock in the morning the dam broke with a roar that was heard far across the Derwent. The deluge raced down carrying all before it — homes, orchards and gardens were hopelessly destroyed but only one life was lost, because the people had been moved to safety. Nowadays even the yellow gash of the landslide has been softened by time and few have ever heard the story.

Acknowledgements

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[2 April 2007]

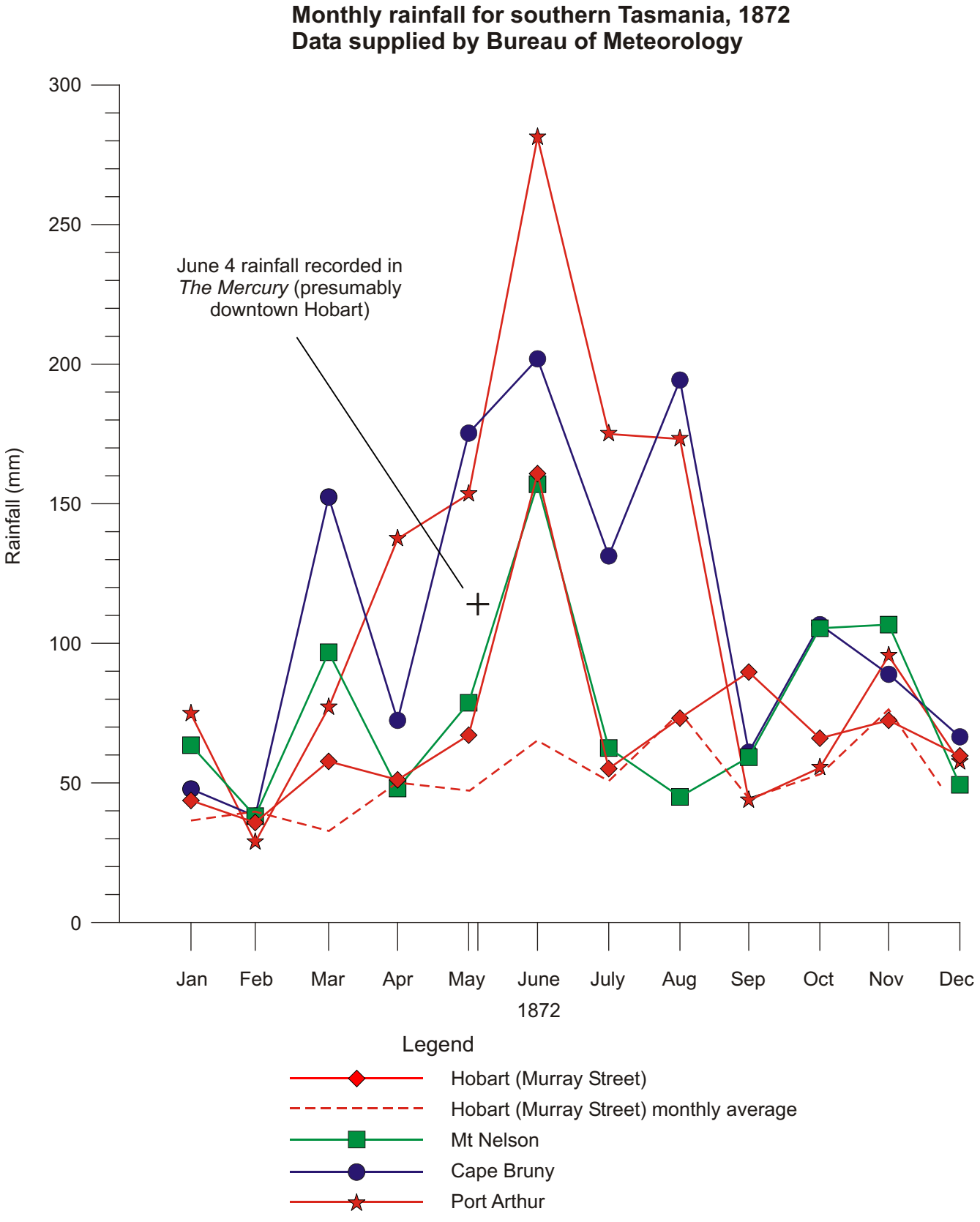
Monthly rainfall for southern Tasmania, 1872
Data supplied by Bureau of Meteorology
Rainfall (mm)
300
250
200
150
100
50
0
June 4 rainfall recorded in
The Mercury (presumably
downtown Hobart)
Jan
Feb
Mar
Apr
May
June
July
Aug
Sep
Oct
Nov
Dec
1872
Legend
Hobart (Murray Street)
Hobart (Murray Street) monthly average
Mt Nelson
Cape Bruny
Port Arthur

Figure 2

Table 1

Summary of observations, landslip and flood, Humphrey Rivulet, June 1872

	The Mercury 30 May–3 June 1872	*The Mercury* Wednesday 5 June 1872	*The Mercury* Thursday 6 June 1872	*The Mercury* Friday 7 June 1872	*The Mercury* Monday 10 June 1872	*The Mercury* Saturday 15 June 1872	S. H. Wintle (1872)	*Guide to Excursionists* (1879)	T. J. M. Hull (1940)
Weather, pre-June 4	30 May: Fine, light NW wind, barometer 30.15″ (1022 hPa); 1–2 June: No specific details about weather; 3 June: Calm, dull, barometer 29.75″ (1008 hPa).	Several fine days up until Monday 3 June, which was dull and hazy, with a change occurring at midnight.						An unusually large fall of rain on Mount Wellington.	Strong southerly buster; then continuous rain for many days.
Weather, Tuesday June 4		Rain starts at midnight (June 3/4) associated with strong SW gale increasing to hurricane. Extensive flooding in Hobart and surrounds; highest water in Hobart Rivulet about 3 pm.	Subsidence of the flood in Hobart Town and Glenorchy commenced on Tuesday evening, although the rain continued, and the wind blew strongly to a late hour. Barometer 29.30″ (993 hPa) in afternoon.				Heaviest rainfall since 1854 flood — 4½ inches in 24 hours.		Continuing rain.
Landslip: Time of occurrence and related observations			Residents in the vicinity of O'Briens Bridge heard, at about 10.30 pm Tuesday night, "a dreadful dull rumbling sound, a heavy smothered crash, and a deafening roar of flowing waters"; the debris flow arrived about an hour later.				Occurred Tuesday night: time between noise of initial 'loud rush and roar of water' and flow reaching Derwent was only 10 minutes.	11 am Tuesday: flow in rivulet ceased due to landslip forming dam; at 10.00pm, "concussion was felt as if a magazine of 100 tons of gunpowder had exploded"; no delay mentioned between noise and flow reaching Glenorchy, but destruction took ¾ hour.	At about midnight Tuesday night, 'a mighty roar and crash' as side of mountain gave way.
Dam hypothesis			During the heavy rains a vast area of water collected in a natural basin, causing landslips (?).			Huge volume of water, suddenly released.	Initial movement formed dam at terrace near head of slip where water collected and then burst through.	Landslip formed dam — 60 feet deep × 300 yards wide — which nearly stopped flow in Humphrey Rivulet between 11 am and 10 pm despite heavy rain.	Temporary dam formed in narrow section of rivulet, causing temporary subsidence of floodwaters downstream before catastrophic release (time of which not stated).
Fatality		A Mr Moran, in the employment of Messrs Wright and Co., was carried away by the flood in attempt to save the property of his employers.	Name of Moran given in error: the fatality was in fact Andrew Ranaghan, in employ of Mr Murray; drowned at O'Briens Bridge on Tuesday afternoon.					One life lost.	T. Ranahan the only fatality during the flood.
Description of debris			Trees uptorn by the roots, broken branches, tangled undergrowth, masses of rocks, other debris.	Trees from 50 to 100 feet long and six or seven feet diameter at the butt, boulders, sludge.		Enormous boulders, trunks of dead timber, green trees, huge sludge beds.	Immense heaps of timber and gigantic boulders. Blue gums over 200 ft long, one tree measured 15½ ft in circumference.	Thousands of trees (40-50 tons in weight), boulders of rock and clay, shrubs and rocks intermingled, great trees holding large stones among their roots.	Large gum trees and logs (some about 5ft in diameter), stones and scrub.

Description of landslip site			As viewed from Glenorchy, two separate slips on each side of gully, the larger almost one mile long and between 200–640 acres in area.		In valley of Humphrey Rivulet, each hillside swept clean of vegetation to a height of 80 yards from creek bed. Torrent estimated to have been at least 150 yards wide and 70 feet deep. Smaller slip, exactly opposite larger one, was created by surge from main slip.	Valley of Humphrey Rivulet resembled 'newly formed railway cutting' with level bed about 22 chains [yards?] wide. Height of devegetated zone about 50 feet perpendicularly above creek bed, but evidence of flood damage to standing trees a further 50 feet higher. Further upstream, estimated dimensions of cleared area 350 yards wide and 80 feet deep; at foot of main slip, nearly ¼ mile wide. Lower ¾ of main slip estimated 600 yards long, 300 yards wide, slope 45°; upper ¼, concave, 300 yards wide, slope 20°.	From O'Briens Bridge could be seen a large yellow tract on northern face of Mount Wellington, 6–7 miles away. Valley of Humphrey Rivulet cleared to average height of 80 feet, but often only 15–20 feet on one side because of velocity of flow. Lower part of main slip slopes 37° by clinometer; upper part 42° but with a terrace at 5°.	About 100 acres in extent. From a distance, travellers observe a long yellow line running nearly horizontally along side of Mt Wellington. Below this line is seen a large patch of yellow, free of trees and shrubs. *Near the highest point of Mt Wellington.	
Property damage, Glenorchy area		Properties of Wright, Reed and Symons damaged. Wright's hop grounds completely flooded.	Hundreds of acres of cultivated land ruined by debris including hop grounds and orchards. W. Murray's vinegar and candle works destroyed. E. Morrisby's bridge and mill washed away. I. Wright's tannery damaged. S. Wright lost 5 acres of hops. J. Oswald's and Cane's houses destroyed. T. Laing's and R. Shoobridge's houses damaged. H. Cook's garden destroyed.	W. Murray's candle and vinegar works damaged, not destroyed. Barrett's store flooded. Craig's hut damaged.		Piles of timber scattered over level ground (near Stansfield's residence 1½ miles from Main Road).	House ruins (½ mile from O'Briens Bridge). A fine orchard near O'Briens Bridge destroyed. On river side of bridge, a mass of entangled trees, fences, wine and vinegar casks, building materials and agricultural equipment.	Buntingdale cottage destroyed. Great destruction of property on banks of Hunphrey Rivulet.	Destroyed the cottages belonging to the Lane and Oswell families. Damaged William Murray's properties: soap and candle factory, wine and cider factory, tannery, hop grounds and orchards. Flooded many homes near Humphrey Rivulet and Main Road in Glenorchy. Large trees deposited in Elwick Bay.