

(No. 124.)



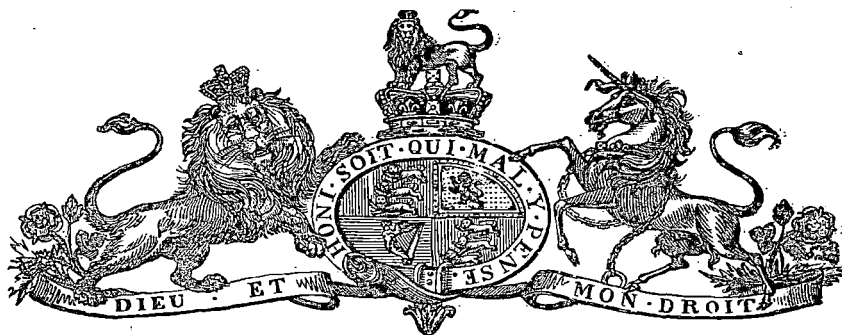
1888.

PARLIAMENT OF TASMANIA

LAKE CRESCENT WATER SUPPLY :

REPORT FROM THE SELECT COMMITTEE, WITH MINUTES
OF PROCEEDINGS AND EVIDENCE.

Brought up by Mr. Nicholas Brown, August 31, 1888; and ordered by the House
to be printed.



SELECT COMMITTEE appointed, on the 29th June, 1888, to enquire into the proposed Vote of £2000 for Water Supply from Lake Crescent and Lake Sorell.

MEMBERS OF THE COMMITTEE.

MR. PILLINGER.
MR. BARRETT.
MR. W. T. H. BROWN.

MR. DUMARESQ.
MR. NICHOLAS BROWN (*Mover*).

DAYS OF MEETING.

Wednesday, 4th July; Thursday, 5th July; Friday, 6th July; Wednesday, 11th July; Thursday, 12th July; Wednesday, 18th July; Tuesday, 24th July; Thursday, 16th August; Friday, 24th August; Wednesday, 29th August; Thursday, 30th August; Friday, 31st August.

WITNESSES EXAMINED.

Mr. A. M'Dowall; Mr. E. Nicholas; Mr. R. Allen; Mr. H. F. Chamberlen; Mr. E. A. Counsel; Hon. W. A. B-Gellibrand, M.L.C.; Mr. A. T. Pillinger, M.H.A.; Mr. W. T. H. Brown, M.H.A.; Mr. H. S. Smith.

M I N U T E S.

WEDNESDAY, JULY 4, 1888.

The Committee met at 11.15 A.M.

Present.—Mr. Dumaresq, Mr. Barrett, Mr. W. T. H. Brown, Mr. Pillinger, and the Hon. Nicholas Brown (Mover).

1. The Hon. Nicholas Brown was voted to the Chair.

2. Ordered, That the following witnesses be summoned to attend and give evidence before the Committee :—
Mr. E. Counsel for Thursday, the 5th instant, at 11.30 A.M., to bring with him maps showing Lakes Crescent and Sorell, and the country watered by Rivers Clyde, Blackman, and Isis. Mr. Edward Nicholas, Bothwell, time and date to be hereafter determined by the Chairman.

3. Ordered, That the Committee Clerk do request the Hon. the Minister of Lands to supply the Committee with Mr. Surveyor Cutten's plan and estimates of the tunnel, and all other plans and documents which would aid them in their inquiry.

Resolved, That the Chairman be requested to move the House of Assembly that a Message be sent to the Hon. the Legislative Council asking that permission be granted to the Hon. Walter Angus Bethune Gellibrand to attend and give evidence before the Committee.

The Committee adjourned at 11.45 A.M. till 11.30 A.M. on Thursday next.

THURSDAY, JULY 5, 1888.

The Committee met at 11 A.M.

Present.—Mr. Dumaresq, Mr. Barrett, Mr. W. T. H. Brown, Mr. Pillinger, and the Hon. Nicholas Brown (Chairman.)

The Minutes of the last meeting were read and confirmed.

The following documents were laid upon the Table :—

- (1.) Lake Sorell Water Supply. Plan, section, and approximate estimate, by Mr. Cutten, May, 1887.
- (2.) Tunbridge Water Supply. From Lake Crescent Section. Estimates and Correspondence by Mr. Cresswell, August, 1887.
- (3.) Mr. E. Counsel's report on the respective depths of Lakes Crescent and Sorell, with plans, &c.
- (4.) District maps showing Lakes Sorell and Crescent, and the country watered by the Rivers Clyde, Isis, and Blackman.
- (6.) Letters from Messrs. Robt. Kermode and Thomas Riggall.

The Committee adjourned at 11.50 A.M. until 11 A.M. on Friday next.

FRIDAY, JULY 6, 1888.

The Committee met at 11 A.M.

Present.—Mr. Barrett, Mr. Pillinger, Mr. W. T. H. Brown, Mr. Dumaresq, and the Hon. Nicholas Brown (Chairman.)

The Minutes of the last meeting were read and confirmed.

Mr. A. M'Dowall, of Bothwell, was called in and examined.

Mr. M'Dowall withdrew.

Ordered, That the following witnesses be summoned to attend and give evidence before the Committee :—Mr. Richard Allen, on Wednesday, the 11th instant, at 11 A.M.

The Committee adjourned at 12.45 P.M. until 11 A.M. on Wednesday, the 11th June.

WEDNESDAY, JULY 11, 1888.

The Committee met at 11 A.M.

Present.—Mr. Barrett, Mr. Pillinger, Mr. W. T. H. Brown, Mr. Dumaresq, and the Hon. Nicholas Brown (Chairman.)

The Minutes of the last Meeting were read and confirmed.

A letter was read from Constable Wm. Hastie reporting on "the cause of the River Clyde being so low this year."

Mr. W. T. H. Brown tabled a Report of the Campbell Town Water District.

Mr. Edward Nicholas, of Bothwell, was called and examined.

Mr. Nicholas withdrew.

Mr. Richard Allen, of Bothwell, was called and examined.

Mr. Allen withdrew.

Mr. Henry Francis Chamberlen, of Bothwell, was called and examined.

Mr. Chamberlen withdrew.

Resolved, That Mr. R. C. Kermode, of Mona Vale, be summoned to attend and give evidence before the Committee on a day to be decided later.

The Committee adjourned at 12.40 until 11 A.M., on Thursday, July 12.

V

THURSDAY, JULY 12, 1888.

The Committee met at 11 A.M.

Present.—Mr. Pillinger, Mr. W. T. H. Brown, Mr. Barrett, Mr. Dumaresq, and Hon. Nicholas Brown (Chairman).

Minutes of previous Meeting read and confirmed.

Edward Albert Counsel was called and examined.

Mr. Counsel withdrew.

William Angus Bethune Gellibrand was called and examined.

Mr. Gellibrand withdrew.

Mr. Counsel was re-called and examined.

Mr. Counsel withdrew.

At 1.10 P.M. the Committee adjourned till 12 noon on Friday, July 20.

WEDNESDAY, JULY 18, 1888.

The Committee met at 11 A.M.

Present.—Mr. W. T. H. Brown, Mr. Barrett, Mr. Dumaresq, Mr. Pillinger, and Hon. Nicholas Brown (Chairman).

Mr. A. T. Pillinger, M.P. for Oatlands, gave evidence.

Mr. W. T. H. Brown, M.P. for Campbell Town, gave evidence.

Resolved, That Mr. H. T. Smith, Mr. Kermode's Overseer, be summoned for Tuesday, July 24.

At 12.45 the Committee adjourned till 11 A.M. on Tuesday, July 24.

TUESDAY, JULY 24, 1888.

The Committee met at 11 A.M.

Present.—Mr. W. T. H. Brown, Mr. Dumaresq, and Hon. Nicholas Brown (Chairman).

Minutes of previous meeting were read and confirmed.

Henry Spurway Smith was called and examined.

Mr. Smith withdrew.

At 12.15 the Committee adjourned till 11 A.M. on Wednesday, July 25.

THURSDAY, AUGUST 16, 1888.

The Committee met at 3 P.M.

Present.—Mr. Dumaresq, Mr. Pillinger, Mr. W. T. H. Brown.

In the absence of the Chairman (the Hon. Nicholas Brown), Mr. Pillinger took the Chair.

Resolved, That Mr. Pillinger be authorised to secure the services of a Surveyor to take the levels of Lakes Crescent and Sorell.

Committee adjourned *sine die*.

FRIDAY, AUGUST 24, 1888.

The Committee met at 11.30 A.M.

Present.—Mr. Barrett, Mr. Dumaresq, Mr. Pillinger, Mr. W. T. H. Brown, and the Hon. Nicholas Brown (Chairman.)

Mr. E. A. Counsel was re-called and examined.

Mr. Counsel withdrew.

The Committee agreed to call the Hon. James Gibson, Member of the Legislative Council, as a witness, and requested the Chairman to obtain the necessary permission from Parliament.

The Committee adjourned until 11 o'clock on Wednesday next.

WEDNESDAY, AUGUST 29, 1888.

The Committee met at 11.30 A.M.

Present.—Mr. Pillinger, Mr. Barrett, Mr. W. T. H. Brown, Mr. Dumaresq, and the Hon. Nicholas Brown (Chairman.)

The Minutes of the last Meeting were read and confirmed.

The Committee deliberated.

The Committee adjourned until 3 P.M. on Thursday, the 30th instant.

THURSDAY, AUGUST 30, 1888.

The Committee met at 11:30 A.M.

Present.—Mr. Pillinger, Mr. W. T. H. Brown, Mr. Dumaresq, and the Hon. Nicholas Brown (Chairman.)

The Minutes of last Meeting were read and confirmed.

The consideration of the Draft Report was proceeded with.

The Committee adjourned until 12 o'clock on Friday, the 31st instant.

FRIDAY, AUGUST 31, 1888.

The Committee met at 11:30 A.M.

Present.—Mr. Pillinger, Mr. W. T. H. Brown, Mr. Barrett, Mr. Dumaresq, and the Hon. Nicholas Brown (Chairman.)

The Committee met at 3 P.M.

The Report of the Committee was agreed to.

The Committee adjourned *sine die*.

R E P O R T.

YOUR Committee have the honor to report that they have carefully considered the question referred to them, and after having obtained and duly weighed all available evidence on the subject (a Report of which is hereto attached), have arrived at certain conclusions, which are now submitted for the consideration of your Honourable House.

The evidence elicited by your Committee proves,—

1. That the proposed work is calculated to be highly beneficial to the part of the country lying to the eastward of the Western Tier, now dependent for its water supply mainly upon the River Isis, the Blackman River, and the Millbrook and Tin Dish Rivulets. These sources of supply are quite inadequate to afford sufficient water for irrigation, or even for ordinary purposes, in the summer months. It is, therefore, very important that the water lying unused from year to year in Lake Sorell should be rendered available for this insufficiently watered part of the Colony.

2. That under the provisions of the “Clyde Water Act” owners and occupiers of land in the Bothwell and Hamilton Districts have well established rights to the supply of water in the Clyde, which river has been rendered more regular in its flow by works constructed and maintained at the expense of the landholders who have contributed to the funds of the Clyde Water Trust.

3. That in Lakes Crescent and Sorell, with certain necessary conservation works, there can be provided an ample supply of water for both the country lying to the eastward of the Western Tier, and for the Bothwell and Hamilton districts as far as they are watered by the River Clyde. On this part of their enquiry the following calculations have been considered by the Committee:—

The area of Lake Sorell is	12,300 acres
And that of Lake Crescent	4400 acres

Total..... 16,700 acres.

One inch of water would irrigate 12,000 acres for four days; consequently, from this data, if the intake of the channel of Interlaken were lowered 2 feet 6 inches, and Lake Sorell embanked so as to raise the water 3 feet above its present level, there would be available 66 inches of water to draw upon, which would irrigate 24,000 acres of land for a period of 132 days.

4. That a survey has been made and an estimate of cost of necessary works prepared by Mr. Cutten, C.E., whose opinion is, that the sum of £3400 will be required to provide for the proposed tunnel and other works in connection therewith. It must be noted, however, that your Committee have not been able to obtain any conclusive evidence as to the extent to which private lands may be submerged by raising the level of the Lakes. To ascertain this accurately, a careful survey of the shores of the Lakes will be necessary.

It appears to your Committee that there should be no diminution in the supply now running from Lake Sorell and Lake Crescent, but that, in order to afford sufficient water for extension of irrigation in the districts watered by the Clyde, the supply should be increased as much as possible.

Your Committee accordingly recommend that the estimate made by Mr. Cutten, namely, £3400, should be adopted; with the addition of £100 for deepening the channel at the outlet of the Clyde River from Lake Crescent, and providing dam and sluice-gate for same. (See Evidence, questions 118 and *seq.*)

Your Committee having in view the possible claims of other Districts, deem it desirable that some general principle should be laid down by which the construction and maintenance of this and other similar irrigation works may be regulated; and therefore recommend that a general Bill to provide for the conservation and regulation of the supply of water should be submitted for the consideration of Parliament, such Bill to provide that the charge for interest on cost of construction, and for the formation of a sinking fund, should be provided for by payments for use of the water by those requiring it, in the same mode as is enacted in "The Mount Cameron Water-race Act." If effect should be given to this recommendation, it will then be worthy of consideration by those interested in the supply of water in the River Clyde whether it will be to their advantage to have "The Clyde Water Act" repealed, in order that under the general enactment recommended a fuller and more generally useful supply of water may be secured by them.

NICHOLAS J. BROWN, *Chairman.*

Committee Room, 31st August, 1888.

EVIDENCE.

FRIDAY, JULY 6, 1888.

MR. ARCHIBALD M'DOWALL *called and examined.*

1. *By the Chairman.*—What position do you occupy? Warden of the Bothwell Municipality.
2. How long have you resided in the Bothwell District? Since 1825.
3. Are you acquainted with the history of the efforts to secure a constant water supply for the inhabitants of Bothwell and Hamilton by conserving the head waters of the Clyde? I have a good knowledge of what has been done.
4. What was the cause of the first steps being taken to secure a constant water supply? When I first saw the Clyde, in 1825, I could walk across it dryshod, except in places. It was really a chain of waterholes. The flour-mill for the district was a water-wheel mill; and it frequently occurred that there was not sufficient water to supply motive power, and we had to send to other parts of the Colony for our dressed flour. Later, the millers, Messrs. Roadknight, Axford, and Nicholas, combined, and opened the river at its head, to enable water to be drawn from Lake Crescent, which is supplied chiefly from Lake Sorell.
5. How was the expense met? I am not aware whether the public contributed. I think they were asked, but could not say what assistance was granted. The work was done, I think, about 1833. No sluice-head was then put in; the work was merely the deepening of the channel, but no attempt was made to conserve the water. In 1857 our then Member for Cumberland, Mr. Thomas Gellibrand, carried a Private Bill, 21 Vict., through Parliament, the object of which was to provide a supply of water, and enable us to deal with water storage. Being a Private Bill, I lost sight of it; but it was repealed in 1869 by the present "Clyde Water Act," 33 Vict. This Bill gave the Water Trustees and their successors power to erect sluice-gates at the mouth of the outlet of the Clyde from Lake Crescent.
6. Have the operations carried out under that Act been fairly successful, or otherwise, in achieving the objects aimed at? The trustees found that they could not conserve the water from Lake Crescent sufficiently well, and they had to go higher up to the Interlaken River, and widen the channel from Lake Crescent to Lake Sorell, and obtain a higher level to give them a good water supply. Since that was done we have been fairly well supplied. Last season was an exceptionally dry year; and I, as Chairman of the Local Board of Health, called attention to the water supply of the inhabitants, which action, I am sorry to say, gave slight offence to some members of the Water Trust. I am not a member of the Water Trust, but some of the members of the Health Board are; and I was told that the inadequacy of the water supply was in consequence of one of the proprietors of land bordering on the lake complaining that his land was submerged by keeping the water in the lake up to the winter level. He threatened the Trust with legal proceedings, and they consequently allowed the water to run to waste.
7. In response to your application, did the Trust cause the dam to be raised at the outlet? I am not aware. The fact is that they were conserving a certain quantity of water for summer supply, which threw the water on to property belonging to Mr. Kermode (or which he claims to be his), and, in consequence of his objection, they took up the sluices and allowed the water to run to waste. Thus the water was not conserved in winter. These facts are not derived from personal knowledge, but from conversation with members of the Water Trust and other sources of information. [I made no application. Attention to the low state of the river was suggested by me with a view of having the hatches shut down, not raising the dam.]
8. Do you know whether it was the Clyde Water Trust who deepened the channel which connects Lakes Crescent and Sorell? I believe the sluice in the Interlaken River was placed there by the Trust, but the connecting channel is a natural flow. It may have been deepened by the Trust, but originally was a natural outlet. I think it was deepened by the Trust.
9. You are aware that a proposal has been made to carry some of the water of Lake Sorell down the eastern slope of the Western Tier in the Tunbridge country. This Committee has been appointed for the purpose of learning how far such proposal would interfere with the interests of the inhabitants of Bothwell and Hamilton—how far the interests of those districts would be affected by the proposed work. What is your opinion on the subject? I am not an engineer, and do not know the facts or extent of the proposed work. It is difficult for a layman to pronounce an opinion upon work which only experts can speak authoritatively on, but I should certainly suppose that the first thing that would follow raising the lake by three feet would be compensating proprietors of land all round the lake; for, if the Clyde Water Trust came into collision with the proprietor of part of that land, how much more so will it be if the water is raised 3 feet. If our supply of water is not interfered with, it would not affect us.
10. If, instead of raising the lake three feet, we draw four feet more in summer than is now drawn, would there not be sufficient for Bothwell and Hamilton, and also for Tunbridge—by deepening the outlet of the Clyde, would not your supply be retained? As it has previously been found that Lake Crescent is insufficient to supply Bothwell with water, and we had to go back to Lake Sorell, I am under the impression that Lake Crescent could not possibly be sufficient for the district now. Lake Crescent does not drain the surrounding country; it is principally supplied from Lake Sorell.
11. Supposing the supply now given from Lake Sorell is not in any way diminished, how would your supply be affected? So long as we get a good supply we will be content. The position we take up

is this:—We have a prior right to the water; but, if our rights are preserved, we will be quite satisfied to see the best use made of the water for the advantage of others.

12. Had you the sluice-head in operation when you found the supply from Lake Crescent insufficient? Yes?

13. Was it in good order? I could not say whether it was in good order, but it was in tolerably good order in 1867.

14. Is the Clyde flooded in winter? It varies greatly, and the water varies considerably in different seasons. At this season I have seen it as low, within the last few months, as in ordinary years it is in summer. I have seen floods in May, August, and September; also March and December,—the highest in my experience were in those months; but, as a rule, ever since we had the means of conserving the water, we have been well supplied both in summer and winter.

15. How much irrigation is being carried on from the Clyde? About 900 acres.

16. To what extent might that be extended? To at least 2000 acres.

17. What other supply is required? The supply of Hamilton. The only motive power at Hamilton is the Clyde. There are three mills on the Clyde—two in Bothwell, one of which confines its operations to owners' requirements, the other is constantly used by the public; the third is at Hamilton-on-Clyde, which works for the public.

18. Are the inhabitants of Hamilton and Bothwell entirely dependent on the constant running of the Clyde for their domestic supply of water? The townships of Hamilton and Bothwell, and the riparian inhabitants of the districts, are entirely dependent on the Clyde for their water, both for themselves and stock, supplemented during rainy season from the roofs of houses.

19. *By Mr. W. T. H. Brown.*—Have you been to the head waters of the Clyde lately? I have not been to the lakes for some years. My information is obtained from report.

20. Are you aware that the sluice-gate was last year in such a bad state that no water was conserved, the water being allowed to escape for the whole year? I am not aware of that being the case.

21. *By Mr. Barrett.*—How much water came down the Clyde last summer? In many cases it was barely sufficient for our water supply. It was affected in different localities by the quantity taken out for irrigation. Where the water is all brought back into one channel in the Clyde, the person having the whole amount has enough, but where it is dispersed in two or three places it is not enough.

22. Have the Trust any power to regulate the quantity of water taken for irrigation? I believe they have the power, but do not exercise it. There is some difficulty in conserving water, owing to it overflowing the road leading from Lake Sorell to The Den Plains.

23. *By the Chairman.*—By what means are the funds provided by which the Clyde Water Trust maintains the dam and a sluice-gate at present? By a rate.

24. What amount is levied? I am not aware what is the amount of the rate at present, but I believe it is a very small one. The rate is levied on property only fronting on the Clyde.

25. Is the rate fixed regularly? No, only at irregular intervals, whenever funds are wanted.

26. Who are the present members of the Clyde Water Trust? William Nicholas, A. Mandeville, Ed. Nicholas, Rd. Allen, and H. F. Chamberlen.

27. *By Mr. W. T. H. Brown.*—How are the funds expended? I believe the Trust gives a man £5 a year to attend to the sluice-gates and keep them in proper order, and the balance goes to keep the sluices and dam in repair.

28. *By the Chairman.*—Speaking of the opinions of the inhabitants of the Bothwell district, so far as you are able to judge, can you say that so long as their rights and interests in the waters of the Clyde are conserved they would not only offer no objections, but would be glad to see the surplus water used in other districts? I believe they would, but from what I know I am sure they would not be satisfied if they were cut off from Lake Sorell. They have no faith either in the quantity or quality of the water from Lake Crescent. That is the general opinion.

29. Do you think that, as regards the present proposal, before it is carried out or any expenditure incurred in that direction, provision should be first made for conserving the interests of the inhabitants of Bothwell and Hamilton? I certainly think so.

30. If that were done, would they be satisfied to see the present proposal carried into effect? I am sure they would be perfectly satisfied. That is my own view of the case, and I believe it is the general view of the inhabitants. We will be quite satisfied if provision is made to conserve our prior rights. If, however, the water in Lake Sorell is to be raised three feet, great care should be taken to construct the dam of sufficient strength to prevent its being carried away and flooding properties along the river's course, by which great loss might be sustained.

31. Is there any further information you would like to give the Committee? I might say that the interests of riparian properties will speedily come under your notice. If Mr. Kermod complained so bitterly that the works of the Clyde Water Trust submerged a large quantity of his land, he will probably complain much more of the larger work proposed. You will have to consider whether the benefit derivable from the work proposed will be sufficient to compensate the landowners for the injuries sustained by the submersion of their land.

N.B.—With reference to my answer to No. 30, it is not a myth to suppose disastrous consequences possible in the event of an imperfectly constructed dam breaking away; such a catastrophe could only occur from heavy pressure. When extraordinary floods occur the damage and loss is sometimes severe as matters now stand.—A. M'D.

WEDNESDAY, JULY 11, 1888.

EDWARD NICHOLAS *called and examinee.*

32. *By the Chairman.*—How long have you resided in the Bothwell District? I am a native of Bothwell, and have lived there over forty years.

33. Are you acquainted with the efforts made by the residents of the Bothwell District in regard to procuring a constant flow of water in the Clyde? I am well acquainted with the matter from the first effort.

34. Are you a member of the Clyde Water Trust? Yes.

35. What has been done by the Trust by way of securing a constant flow of water in the Clyde? We have levied rates and made a dam. I hand in a return showing the rates levied from 1870 to 1888. The rate averages about £45 net per year, being 1*d.* in the £ on property fronting on the Clyde.

36. Has that rate proved sufficient for the purposes of the Trust? It is very fairly so.

37. In what way have the funds been expended? In keeping the dam in order and paying a caretaker to look after it. We pay him £5 per year,—his duty being to raise and lower the sluice-gate principally, and to see that it is not tampered with by fishermen and others. The last rate was expended solely in wages, or almost so.

38. Have any works of construction or repairs been carried out between the years 1870 and 1888? Yes: repairs to the dam, more or less, have been carried out during that time, but the repairs were slight.

39. Are you aware that there is a proposal to take water out of Lake Sorell to supply the district in the neighbourhood of Tunbridge with water? Yes.

40. Are you aware of strong objections being raised to the proposal by inhabitants of the Bothwell District? Yes.

41. What are those objections? Our objections are that, if the scheme is carried out as proposed the Clyde will be dry, and we will have no water at all—it will be nothing but a chain of small lagoons. Last summer it was very little better,—it was only just running. If the proposed scheme is carried out it will be ruination to some of us.

42. Have you a considerable amount of land under irrigation which is watered by the Clyde? Yes.

43. Would the proposed scheme interfere with that? Yes; the irrigation could not be carried on at all if the proposed scheme is carried out.

44. If you retain as much water as you now receive from Lake Sorell—that is, if your rights are preserved by securing to you as much water as is now running from Lake Sorell to Lake Crescent, thus securing you a constant supply equal to the present, would you still object to the proposed scheme? No, we could offer no objections if that were guaranteed; but that would necessitate a very strong dam being built at the outlet of the Clyde from Lake Crescent.

45. *By Mr. Pillinger.*—If the silt were removed from the intake of the Clyde, as shown to exist on the plan produced, would not that give you four feet more water than is now drawn? Yes; but how long would that last? If the silt were removed the water would rush out and be wasted.

46. Do you think you draw from Lake Crescent more than one foot of water to supply your wants? Yes, far more than that.

47. How much land is irrigated on the banks of the Clyde? Close on 1100 acres are irrigated properly, but the area could be doubled.

48. What are the total requirements of your district? Three flour-mills use the water for motive power, and supply the township with flour; then the townships of Bothwell and Hamilton are entirely dependent on the Clyde for water.

49. If the channel were deepened at the outlet to the Clyde, and the water conserved in the winter and spring months, would there be a sufficient supply for all purposes? Yes, there is no doubt of that, if properly done.

50. *By the Chairman.*—Have you any idea of the cost to construct the necessary dam and sluice-gate? A man who knows something about it estimates the cost at about £2000, but I do not think it would cost so much.

51. Can you give a rough estimate yourself? I am not an authority, but I should say about £500. I do not think a good dam could be constructed under that amount.

52. In your opinion, would it be necessary, in addition to the work spoken of at Lake Crescent, to also have a dam at Lake Sorell, in order to secure an adequate supply of water in Lake Crescent to keep up a good flow in the Clyde? Most decidedly, to store the winter water in Lake Sorell.

53. What do you suppose that would cost? I could not say, but the dam would be very short, and I should think it could be constructed with a sluice-gate for £50.

54. What would be the effect on the surrounding country of raising Lake Sorell three feet? It would swamp a considerable portion of the surrounding country.

55. Would provision have to be made to compensate owners for flooding the adjacent land? Most decidedly I should imagine so, for it would flood a considerable portion of low-lying land in the vicinity of the lake.

56. *By Mr. Pillinger.*—From personal knowledge, do you know the extent of country that would be flooded by raising the water three feet? No, I have never been right round the lake.

57. *By Mr. W. T. H. Brown.*—Do you know the condition of the dam and sluice-gate on the Clyde at present? I have not been at the lakes for eighteen months.

58. Do you know if the dam leaks a good deal? Yes, it always did leak more or less. It was not a sufficiently expensive work to stop leakage, but it answers well.

59. *By the Chairman.*—Would the present water supply be sufficient to irrigate double the present quantity of land irrigated on the Clyde? No, not to carry out very little more irrigation; but if the works that have been suggested for conserving the winter water are carried out there will be abundant water to supply Bothwell and Hamilton, and also the district on the eastern side of the Tier in the neighbourhood of Tunbridge. I am quite certain of that.

MR. RICHARD ALLEN *called and examined.*

60. *By the Chairman.*—How long have you resided in the Bothwell District? I was born there forty-five years ago, and have resided there ever since.

61. Are you acquainted with the history of the efforts made to secure a constant flow of water in the Clyde by the inhabitants of Bothwell? Yes.

62. Do you occupy land that is irrigated? Yes.

63. To what extent? About 300 acres.

64. Speaking generally, how has the supply in the Clyde been for the purposes of irrigation? Very small,—scarcely sufficient, more especially during last season; there was not sufficient water to water half the land under irrigation.

65. How is your land situated in regard to other land? My land is below all the other properties irrigated.

66. Is the supply absorbed before it reaches you? Yes, to a considerable extent.

67. Do you know the locality of the outlet of the Clyde from Lake Crescent? Yes, I have been there.

68. In your opinion would any works constructed there secure you a better water supply? It is a long time since I was there, but from what I remember of it the work would be very expensive.

69. What would be necessary? To lower the bed of the river for some distance from the lake.

70. About what distance would have to be lowered? Roughly speaking, about a quarter of a mile would require deepening, and you would have to extend the work some distance through the silt in the lake.

71. That being done, would it be necessary to have a dam? Yes.

72. Can you give the Committee any idea of what the cost of such work would be? I could not say; but when all that was done there would not be sufficient water in the Clyde to supply Hamilton and Bothwell, for they are dependent entirely on the Clyde, not only for irrigation, but for their supply for domestic consumption and stock. One of our mills is almost at a standstill for want of water.

73. I presume the soundings shown on the plan produced show the lake to be deeper than you thought? I thought there would be about that depth at the centre, but I always thought that the water was shallow round the edge.

74. In your opinion would it be necessary to obtain a constant supply from Lake Sorell into Lake Crescent to secure a constant flow in the Clyde? Yes, I think so.

75. *By Mr. Barrett.*—Have you any idea what constant supply would be required to meet the demands for consumption and irrigation? No, I have no idea.

76. Can you form any idea of what water is required to irrigate an acre of land? No; but I know last year the irrigation was a failure, and in former years there has been a scarcity of water.

77. Before undertaking irrigation or extending its operations, have you to apply to the Clyde Water Trust? I think not.

78. Is there any extra charge for irrigation? There is a water-rate paid only by those occupying property on the river; the rate is 1*d.* per acre, whether irrigated or not.

79. *By Mr. Pillinger.*—Is there a larger waste of water in winter? There is in flood time, but generally there is not enough water. There would be a great deal more irrigation in the District if we had water. The Dennistoun estate alone would irrigate 500 acres if they had water. Some years ago they commenced to construct a race, but ceased for want of water.

80. Have you any idea of the quantity of water in Lake Crescent? No, not the quantity; but I think it would be a very bad thing for us if we were dependent on Lake Crescent for our supply.

81. *By Mr. Barrett.*—Would any injury be sustained if the intake of the Clyde were lowered 2 feet, thus draining the lake 2 feet lower in summer? Not if we had Lake Sorell to back it up, if necessary.

82. *By the Chairman.*—Are there no irrigation works on the Clyde below your property? Not in the Bothwell District.

83. Is there any other demand on the water besides the requirements for Hamilton Township and mill? I think not.

84. Speaking generally of the inhabitants of Bothwell, are they quite willing to see the proposed scheme carried out to give water to Tunbridge, provided their rights and interests are conserved? They fear they will be done out of the water altogether, believing there is not sufficient water for both.

85. Are they afraid their interests cannot be conserved? Yes, we are pretty confident that there is not sufficient water for both, and we have a prior right.

HENRY FRANCIS CHAMBERLEN *called and examined.*

86. *By the Chairman.*—Are you a resident of Bothwell? Yes.
87. What interest have you in the question affecting the water supply for Bothwell? A very considerable interest. I own a mill the motive power of which is water from the Clyde, and a farm which is irrigated by water from that river. This summer we were not able to work the mill excepting at intervals, and had to conserve the water to work at all.
88. What are your views on the proposed scheme to take water from Lake Sorell for Tunbridge? I think, with others, that it would rob us of the water. There is not now sufficient water for ourselves, and this summer the river almost ceased running, the water being quite stagnant and foul.
89. Are you aware of the existing arrangements under the Clyde Water Trust for regulating the water supply? Yes.
90. Have you seen the dam? Yes.
91. What sort of structure is it? The dam is at the outlet from the lake, and is built of rubble stone, with a hatch to regulate the water supply. There is a cutting carrying about two feet of water into deep water.
92. Is it an expensive work? No.
93. In your opinion would the supply to the Clyde be rendered sufficient by deepening the outlet from Lake Crescent to the Clyde by two feet? Not permanently; it would only be sufficient for a short time, unless there were an inflow to Lake Crescent from Lake Sorell. If the channel between the two lakes were stopped up, Lake Crescent would soon be drained dry.
94. But if the supply in Lake Crescent were not diminished, then would the deepening of the channel give you a better supply? The bed of the river would have to be deepened, and it is a mass of stone. We had a lot of stone blasted out of the river bed near the lake, but not sufficient. About 50yds. from the lake there is a reef over which the water trickles.
95. For what distance would the river have to be deepened? Not less than half a mile. If that were done it would give a good fall.
96. What do you suppose to be the average depth of water in Lake Crescent? It is shallow round the edge, but I do not know the depth in the centre.
97. Do the soundings on the plan produced show the lake to be deeper than you supposed? No, not in the centre, but all round the edge it is shallow; I have bottomed it with paddles. The mouth of the cutting between the lakes was almost dry in summer.
98. *By Mr. Dumaresq.*—Without reference to the present proposal to take water from Lake Sorell for Tunbridge, would it not be desirable to carry out the work of deepening the river near Lake Crescent? Yes, certainly.
99. If you drew the water to 2ft. lower in summer, would you not be able to consume that amount in winter without flooding the adjacent land? Possibly we could if we could conserve the water; but at present we are not sufficiently supplied in summer when we want water. We are not allowed to conserve it in winter, because of the objection of owners of land adjacent to the lakes.
100. *By Mr. Barrett.*—What would be about the necessary amount of water to be drawn from the lake to supply your district? Double the amount we now have in summer. About 1200 acres of land are irrigated in the Bothwell district, and I require 10 h.p. for my mill. In the summer months I have to conserve the water all night, then in the morning I can go on for perhaps two hours, when I am compelled to stop for want of water.
101. If the whole district were given a million gallons per day in summer, would that be sufficient? I do not think a million gallons a day would be sufficient.
102. If the intake of the Clyde were lowered 2ft. 6in. would it not give an ample supply all the year round, even if Lake Crescent received no water from rain or from Lake Sorell in summer, and would your district not be better supplied than at present? Possibly it might, if we could be sure we could get the water. It would cost a lot of money to deepen the Clyde, the bed of which near the lake is blue ironstone. It would cost thousands of pounds.
103. *By the Chairman.*—Do you know the land round Lake Sorell? Yes, well.
104. The present proposal is to raise Lake Sorell 3ft. by a dam on the Interlaken River: would that in your opinion result in flooding much of the adjacent land? It would, near Interlaken, the land there being low.
105. What extent of land would be flooded? About 1000 acres.
106. How much of that is Crown Land? A large portion, I believe, is Crown Land, also a considerable portion of the land round Lake Crescent as to which complaints are constantly being made by Mr. Kermode because of its being swamped. It is stated so by people in Bothwell, but the inhabitants do not care to go to the trouble of getting it re-surveyed. It was formerly government property, but has been absorbed. I might state that I have sent to England for force-pumps to enable me to irrigate land from the Clyde, and can work some hundreds of acres of land thereby, and would not like to be robbed of the water.
107. Can the present acreage of land in the Bothwell District be increased? Yes, about 1200 acres are now irrigated, and could be largely increased. The Dennistoun estate cut about 3 miles of race, but ceased owing to insufficient water; they could irrigate from 600 to 1000 acres.
108. Taking the district generally, what extent of land could be irrigated? The Logan, Nant, and other estates could, I think, irrigate nearly 2000 acres more.

109. *By Mr. Barrett.*—How long would you require water for irrigation? We generally start in November, and I continue irrigating till March and sometimes April; six months would be the outside during which we would require water for irrigation.

THURSDAY, JULY 12, 1888.

EDWIN ALBERT COUNSEL *called and examined.*

110. *By the Chairman.*—What position do you occupy? District Surveyor for Oatlands.

111. Under instructions from the Minister of Lands, did you recently make an examination of Lakes Sorell and Crescent with reference to the proposal to take water from Lake Sorell for the Tunbridge District? Yes, and it was included in my instructions to examine the land on the Interlaken estate with reference to damage done to it by water from Lake Sorell.

112. What did you discover in regard to damage that would be caused by the proposed work? I was instructed to collect data regarding the water the lakes contained rather than affecting the adjacent land.

113. In the course of your examination did you discern that much land would be flooded by the proposed work? Yes. I think Lake Sorell might have been raised 18 inches above the level at the time of my inspection without doing much damage. It is said that a good deal of land to the west and south-west of the lake would be damaged by the water being banked up, but it is difficult to say how that would be borne out, because there are certain Crown reservations, and I could not say how much of the land supposed to be damaged would be reserved land without the boundaries of the private property were redefined. A good deal of the land has been damaged, but I could not say to what extent without a closer examination. All the south-western portion of the adjacent land is low-lying.

114. Supposing the water of Lake Crescent was raised above its present level by heightening the dam at the intake of the Clyde, what in your opinion would be the effect on the adjacent land? By raising the water more than 18 inches higher than the depth shown on the prepared plan, I should say it would cause damage to the Interlaken estate.

115. Would that be quite up to the winter level? No. I should say when the lake is up to winter level it will flood the adjacent land.

116. Have you any knowledge of waterworks engineering? I have some practical knowledge of it.

117. Did you examine the intake of the Clyde? Yes.

118. Can you inform the Committee what sort of formation it is in view of its being dammed and deepened? Yes; greenstone formation. I think by going back three chains it could be deepened two feet. It would not all require blasting, and the expense would not be great. If the channel were cut six feet wide, two feet deep, and three chains long, it would be all that would be required, and the cost of that work would be about £60.

119. In addition to cutting out the rock in the bed of the river, would you not require to cut the channel from its head into the lake? Yes; but the cutting there would be silt, which is very soft, and would not cost much.

120. What would be the cost of completing the work, including the construction of a dam and sluice-gate at the intake of the Clyde? I suppose that would cost about £40 additional, making the total cost of the required work about £100, as the material of present dam would be available on the spot.

121. If the Committee have been informed that about half a mile of rock-cutting is necessary, have they been erroneously informed? Yes. A cutting of about three chains would give two feet additional depth.

122. Do you mean the Committee to understand that the result of the suggested work would be that the water in Lake Crescent might be conserved up to something like two feet above its winter level, and that from 2ft. to 2ft. 6in. more water might be drawn from the lake than is at present drained off in summer? If such work as suggested were performed, yes, in my opinion.

123. From your observations, do you think it would be necessary to provide for a larger water supply to come from Lake Sorell into Lake Crescent to supply the Clyde, or is the supply furnished by the present channel sufficient? I think the present channel is sufficient.

124. Have you seen Mr. Cutten's report and recommendations as to the works proposed? I have never seen them till now.

125. Do you know anything of the country watered by the Clyde? No.

126. Do you know anything of the country that would be watered by the proposed tunnel tapping the Clyde? Only approximately; but I think I can furnish you with some information on that subject.

127. Do you know the area of Lake Sorell? I have recently made a calculation of its area from the district plan, and find it to be 12,600 acres; taking the average depth to be 10 feet, that would give 514,000,000,000 of gallons as the cubic area. The surface of the lake being 12,600 acres, that would give to 12,600 acres of irrigated land an inch of water for every inch taken from the lake, less absorption and evaporation, which elements would be very great on such a large surface. A small amount of water taken from Lake Sorell would confer an immense boon on the Tunbridge district.

128. Is there a superabundance of water in Lake Sorell to supply both the Bothwell and Tunbridge districts? I think so. The taking out of two or three inches of depth would be a small matter to the lake, but would be an enormous benefit to the surrounding country.

129. What is the area of Lake Crescent? About 4400 acres; but I have not calculated its quantity of water.

130. Have you any further information that would assist the Committee in this matter? I think not; my work was superficial, and fully up to my instructions.

131. *By Mr. Pillinger.*—What additional supply of water can be obtained from Lake Crescent by deepening the intake of the Clyde by 2 feet, and conserving the water for summer use? About 3 feet 6 inches, or 2 feet below the water, when I took soundings.

132. Are you acquainted with the water supply of the Tunbridge district? I know the inhabitants were in a terrible state last summer for want of water.

133. Have you any idea of the quantity of land in that district that could be irrigated? I should say from 20,000 to 30,000 acres.

134. *By Mr. W. T. H. Brown.*—Do you know if the land that would be flooded by raising Lake Crescent is public or private property? A good deal of it is private land, being outside the Interlaken Reserve; the water banks up a good deal on Kemp's section, the property of Mr. Kermode. The lowest portion of the land is on the south-west, and on Kemp's sections.

135. If a foot of water were conserved in Lake Sorell to supply the eastern side of the Tier, would it leave enough water for irrigation purposes, in addition to keeping the Blackman River running to supply domestic purposes? It would not irrigate the land properly; there would be a great amount of soakage and evaporation, but it would confer a great benefit on the inhabitants.

136. What is the fall of the Interlaken River between the two lakes? I could not say; but it runs strongly for about half the way and then becomes sluggish. It is about half a mile long, and the fall would be quite three feet.

137. *By Mr. Barrett.*—What would it cost to make a concrete dam across the Interlaken River at Lake Sorell? It is only about six feet wide, and could be done for about £40, including a sluice.

138. *By the Chairman.*—Having looked through Mr. Cutten's report, is there anything further you could tell the Committee? I notice there is a discrepancy in the area of Lake Sorell; this report fixes the area at 15,000 acres, instead of 12,600. I estimate the area of the two lakes at 17,000 acres.

139. *By Mr. Barrett.*—Can you give a rough estimate of the watershed of the lakes? I will obtain information on that point and furnish it to the Committee.

WALTER ANGUS BETHUNE GELLIERAND *called and examined.*

140. *By the Chairman.*—Do you know the country watered by the Clyde? I can speak from a personal knowledge of the country for 38 years, long before the first Water Act was passed. Previous to that the river in an ordinary season ceased to run so far that it was not available for mill or irrigation purposes, and very inadequate for a good supply for domestic purposes. When the private Water Act was carried through Parliament by the then member, Captain Langdon, the dam constructed was of insufficient height, and the water in one season was not sufficient to work the one mill in Hamilton. Since the Act of 1869 was passed there has been no trouble whatever, and even in the particularly dry season of last year there was sufficient water for the mill at Hamilton, and, I have reason to believe, there was ample water for the Bothwell mills.

141. Have you known of any difficulty experienced by the Clyde Water Trust in connection with occupiers of land adjacent to the lakes? Yes; objections were raised by Mr. Kermode when the private Act was passed, in consequence of his land being swamped on the Interlaken river, the swamping being caused by damming up the river. I know the country, and if the lake is raised it must swamp a large amount of land.

142. Do you know Lake Crescent? I do not know the extent of the lake.

143. Is it a matter of vital importance that the water supply of Hamilton and Bothwell should not be decreased? Certainly; I think it should be increased if they are to go in for irrigation at all. Before the dam was increased the irrigation supply of Sherwood was inadequate; now it is adequate; but if the land below is to be brought under irrigation, it will require a much larger quantity of water than they have now.

144. A suggestion has been made to the Committee to deepen the Clyde, so as to enable 2ft. to 2ft. 6in. more water to be drawn off in summer time, and to ensure a constant supply in Lake Sorell by damming up the Interlaken river; in your opinion if these works are carried out will sufficient water be supplied to the people on the Clyde? It is a question for experts to say what is the quantity of water in the two lakes. My own opinion is there would not be sufficient water to supply the two districts, for only in two instances have I known the Clyde to be flooded. There was one heavy flood, the dam being carried away; but never has there been any very extensive flood, or great quantity of water more than is required.

145. Part of the proposed scheme is to raise Lake Sorell 3 feet: the area is 12,600 acres. In view of that you would still hold to the opinion that the water would be insufficient to supply the two districts? It depends on the catchment area. I do not know the extent of the watershed.

146. If the people on the Clyde want to irrigate land, do they previously make application to the Water Trust? I do not know what their arrangements are.

147. *By the Chairman.*—Do you know anything of the feeling of the people of Bothwell and Hamilton generally as to the proposal to take water from Lake Sorell for the Tunbridge District? Of course they are against the water being interfered with in any way, as they fear they will not have sufficient water.

148. If their supply is kept up, would they be satisfied to have this proposal carried out? I cannot express an opinion on that matter.

149. *By Mr. W. T. H. Brown.*—If we can show that we can conserve 2 feet of water in the lake without interfering with their interests, would they have any objections to our getting that 2 feet? Not if you were regulated not to exceed that 2 feet; but if you once commence you will not be satisfied with the 2 feet. I am strongly of opinion that the water cannot be conserved, and if you lower the outlet 2 feet I am of opinion it will permanently lower the lake 2 feet.

150. Who cut the original drain between the two lakes? Mr. Robert Kermode, his object being to keep his land from being flooded by Lake Sorell. I might mention that during last year the River Ouse only just ran, and as it has two catchments in that portion of the country, the catchment of Lake Sorell will not probably be very large. If you carry out the proposed work you will find that you will have very little water for irrigation. If you expect to get 2 feet of water you will find yourselves woefully deceived.

WEDNESDAY, JULY 18, 1888.

ALFRED THOMAS PILLINGER *examined.*

151. *By the Chairman.*—What position do you occupy? Member of the House of Assembly for Otlands.

152. Are you acquainted with the country in the vicinity of Lakes Sorell and Crescent? Yes.

153. What area would be submerged by carrying out the proposed works? I do not think the area would be large.

154. Will you give the Committee information as to the land to be served by the proposed works? Referring to the land between Macquarie River and the Tier, and not included in the Isis country, there would be from 15,000 to 20,000 acres that would be brought under cultivation, and which would be served by the proposed water supply.

155. What has been the state of that country as regards water supply since you have known it? During five months of the year that country is almost entirely without water even for watering stock, and has been quite so during the past summer. The people of the township of Tunbridge have been compelled to use water totally unfit for human consumption.

156. What are the means of water supply for that country? The Blackman River, which flows from the Western Tier, and the Millbrook, which also flows from the eastern side of the Tier, without any catchment area except the Tier itself. It is also supplied in winter by Tin-dish Creek, which is, however, dry for about six months in the year. It does not flow from Lake Tiberias.

157. Are there no springs or wells? There are constant springs flowing from the Tier. They reach the properties near the Tier, but do not reach Tunbridge or the properties below. There are wells, but the water is brackish and very bad.

158. You know what is intended to be done after the tunnel is cut into Lake Sorell—that the water after passing through the tunnel will reach the eastern side of the Western Tier? I understand it is the intention of the inhabitants to form a Water District for the purpose of cutting a main race, and let the property holders cut branch races to get the service of the water for their land under proper restrictions. A Board will be formed to regulate the supply and attend to the works. The intention is that if the Government will cut the tunnel the inhabitants will do all the other necessary work.

159. What existing stream would the water flow into? The Millbrook first, and then join the Blackman River, and afterwards fall into the Macquarie. That would be a further supply for the Macquarie River, in addition to the supply from Toombs' Lake.

160. Would dams be necessary along the course of the Blackman and Macquarie rivers? No dams would be necessary. It could be carried out at an elevation sufficient to obviate the necessity of dams. It would command the surrounding country, the fall being about 2000 feet in nine miles.

161. *By Mr. Barrett.*—What length of artificial channel would you require from the tunnel to the Blackman? No artificial channel would be required. It would flow in a natural channel—Flood's Creek—to the Millbrook, a distance of about three miles. Then provision would be made by the inhabitants for irrigation. The elevation would be 1500 feet below the tunnel, the fall being very rapid, the bed of the creek being rock. The fall to Tunbridge from there would be about 500 feet. Some little drains would be cut higher and some lower, according to the nature of the country.

162. Will you give to the Committee any information you deem desirable in regard to Lakes Sorell and Crescent and adjacent country? For many years I have been acquainted with the country about those lakes, and have been continually in their neighbourhood. In the winter months I have seen great volumes of water running to waste, no attempt being made to conserve it. That has occurred since the Clyde Water Trust has been in existence. The water was running through from Lake Sorell to Lake Crescent, and the hatch being up, the water poured out into the Clyde and ran to waste. I have no doubt if the outlet to the Clyde were lowered two or three feet, and the water conserved during the winter in Lake Crescent, that a much larger supply would be afforded to the Bothwell people than they obtain under present circumstances. There is no conservation in the winter, and both lakes are running to waste without hindrance. It is waste water from Lake Sorell that swamps the land adjacent to Lake Crescent; then the hatch is drawn up, and the whole of the water allowed to run to waste.

163. Would the conservation of water in Lake Sorell involve the flooding of land round the shores of the lakes? It would to some extent, if conserved in the manner suggested by Mr. Cottam.

164. Can you state approximately the area of land that would be submerged? At Lake Crescent very little private land would be flooded. At Lake Sorell there might be 500 acres. That would, roughly speaking, include the entire submersion of private property.

165. What is the catchment area? I am well acquainted with the catchment area of the Lakes. They drain the country in one direction for over 10 miles. There are something like 100,000 acres of land draining into those two lakes. It is a very wet country, the rainfall being very heavy, and in winter the water is enormous, sheep being drowned sometimes by the storm water. It would perhaps be desirable to carry the tunnel into Lake Sorell at a greater depth than shown on the plan, and if so it would not be necessary to raise the lake at all. The water could be drawn from the lakes at a much greater depth than shown on the plan.

166. Without some steps being taken to conserve the winter water, would the water in the Lakes be sufficient to supply Bothwell and Hamilton, and also Tunbridge as proposed? By cutting the channel deeper into Lake Sorell, and by putting in the tunnel at a lower depth, the lake would be struck at lower depth, and all water necessary could be drawn from Lake Sorell into Lake Crescent. I believe there would be sufficient water if properly conserved to supply both districts without raising the lakes to a higher winter level than at present.

167. *By Mr. Barrett.*—What is the value of the land that would be swamped? About £2 per acre.

168. *By Mr. Dumaresq.*—I presume the land to be submerged is chiefly for summer use? It is not good land for either summer or winter use. In winter it is under water and in summer it is flukey.

169. What price per acre would farmers pay for irrigating land? I cannot say, but I know the produce on irrigated land is fully fourfold increased.

170. Would they pay 1s. per acre? Yes, I should certainly think they would, and if the Government carry out the scheme I am sure the people would not object to pay for it; 1s. per acre would be a moderate charge. There would also be land outside that irrigated for grass or crop purposes, which would be largely benefited by water being supplied for stock. A considerable portion of the land now has to be left entirely unstocked in summer for want of water.

WILLIAM THOMAS HENRY BROWN *examined.*

171. *By the Chairman.*—What position do you occupy? Member of the House of Assembly for Campbell Town.

172. Can you inform the Committee of the nature of the country north of Tunbridge which would be served by the proposed water scheme? We have about 1500 acres available for agricultural purposes. There is no water at all for the grass. The Verwood and Ellenthorpe Estates could irrigate 1500 acres with the proposed water supply.

173. Can you give the Committee an approximate estimate of the total area of agricultural land to be served by the proposed scheme? Taken altogether the district is very large, extending right down through the Isis valley, through many estates, but only small portions of real estate would be irrigated. The first land irrigated would be on the Verwood estate, about four miles from the outlet from the lake.

174. Would the owners of land along the Macquarie also be benefited by the supply? The water would join the Macquarie a long way down, but would confer most benefits on the inhabitants above the junction by affording a constant supply of running water.

175. Are you acquainted with the Lake Country? Yes.

176. You have heard the evidence given by Mr. Pillinger: do you confirm it? Yes, I confirm all he has said.

177. Have you anything to add? By obtaining a water supply from Lake Sorell as proposed it would supply one of the worst watered districts of the colony. Being a salt district, nearly the whole of the water in the creeks is brackish, and unfit for consumption. Nearly all the properties to be benefited lie between the Blackman and Isis, and the water supply is chiefly water-holes. The proposed scheme would give a constant supply of running water for human consumption and stock. Last summer the people and stock were in a deplorable condition for want of water.

178. Do you believe that those who would be benefited by the proposed water scheme would be willing to pay for it? I am sure they would be only too glad to pay for it. Only give them the water, and they will pay for it willingly.

TUESDAY, JULY 24, 1888.

HENRY SPURWAY SMITH *called and examined.*

179. *By the Chairman.*—What position do you occupy? Overseer for Mr. Robert C. Kermode, at Interlacken.

180. Do you reside near Lake Sorell? Yes.

181. How long have you resided there? Nearly 22 years.

182. Were you residing there when the watercourse between the two lakes was opened out? No; that was done before my time.

183. Of your own knowledge do you know anything of the difference between Lake Sorell now and before that watercourse was deepened? No.

184. Has Mr. Kermode, or you acting on his behalf, at any time complained of the water of Lake Crescent being dammed up? I have, frequently.

185. Why? Because it damages a considerable amount of Mr. Kermode's property by throwing water on his land.

186. To what extent has the land been swamped? Giving a rough estimate, close on 300 acres is the largest amount.

187. After looking at the plan produced, can you state what portion of land has been flooded? Not much is flooded by Lake Crescent, owing to that lake being small, only some four or five acres, but it has submerged a great amount on the lagoon, and has been swamped on the north side of the Clyde River by the operations of the Clyde Water Trust in damming the intake of the river, Mr. Kermode's property being swamped.

188. Is that submerged land private property? Not all; but a good deal of it is private property.

189. Are you quite sure? Yes; I have traced the line. Mr. Kermode leases the land to Mr. James Farley, of Tunbridge.

190. Then it is not Mr. Kermode, but his tenant, who is the sufferer? At that particular place it is the tenant, but Mr. Kermode likewise suffers, as the water causes an overflow on the property that Mr. Kermode occupies, about a chain of the land being swamped at the northern corner, near the Lake Road.

191. Is that the only place where Mr. Kermode's property has been submerged? No; it is flooded on Mr. Kemp's property on Lake Sorell. The flooding is chiefly on Mr. Anthony F. Kemp's property; it increases the swamp on the southern side of the lake on land rented by Mr. Kemp from Mr. Kermode. A drain was made in 1868 by Mr. Richard Pitt from the Three hundred-acres Lagoon to Lake Crescent, but there was an overflow from Lake Sorell over our property, and the drain had more water than it could carry owing to the embankment being carried away by the overflow of Lake Sorell. This drain drains Mr. Kermode's property into Lake Sorell, but by damming back the water it stops the fall of the drain. This has caused the embankment made by Mr. Pitt to be washed away, and is forming the lake and lagoon into one.

192. Does the water flow violently? No.

193. How does it wash the embankment away? By damming up the water and by the wash of the water caused by the Lake Crescent water not being able to get away.

194. What kind of a stream is there between the two lakes? It runs rapidly.

195. Then you would assume that the level of Lake Crescent is considerably below that of Lake Sorell? Yes; I know it is by the fall of the water, but I never took the levels.

196. Is there not a dam across the mouth of the Interlaken River? No; there was a viaduct, but it has been done away with. There is no dam now, except that at the mouth of the Clyde.

197. *By Mr. W. T. H. Brown.*—Do you know that the land inundated is private property? Yes, I am certain of that.

198. What area would be inundated on the south side of Mr. Kemp's property? Close on 300 acres on the south side, roughly estimated.

199. Am I to understand that all the land belonging to Mr. Kermode that would be inundated by damming up the lake would be 300 acres? Yes, that would be all.

200. *By Mr. Dumaresq.*—Do you consider this inundation is caused by damming the water in Lake Crescent? Yes; the overflow never occurred to my knowledge until the last 3 or 4 years. There is much less water in Lake Crescent this year than in former years because the Water Trust have had the dam gate up for 7 months.

201. *By the Chairman.*—Was the gate lifted because Mr. Kermode complained that his property was being damaged? No, because it was down below its ordinary level. If the water had been backed up in 1868 we could not have cut the drain, which is now under water.

202. Do you know that the people of Bothwell and Hamilton, depending on the Clyde for water, have been endeavouring for some time to obtain a better supply by increasing the water in the Clyde: can you suggest any mode for so doing which would not damage the land surrounding the lakes? Yes, by simply expanding the intake of the Clyde, which now contains only a depth of 8 inches of clear water, and not over a rod wide. If the existing dam were removed and a gate made 6 feet by 6 feet, with the drain 3 feet by 3 feet it would give satisfaction both to Mr. Kermode and the Water Trust. It is necessary that the bed of the Clyde should be lowered 3 feet for a chain and a half from the intake, and extended for some distance, say 3 chains, into the lake; it would enable the Water Trust to almost drain Lake Crescent if required.

203. Do you mean that the river bed would require to be cut 3 chains below the intake, and another 3 chains into the lake, the depth being 3 feet? Yes, and that would give ample water for the Bothwell and Hamilton people.

204. *By Mr. W. T. H. Brown.*—You know that there is a scheme proposed to tap Lake Sorell, taking the water through Sutton's property. Do you think by taking the water out of Lake Sorell, if proper arrangements are made to conserve it in winter, would there be sufficient water in the Clyde to supply Bothwell and Hamilton and to supply the Tunbridge District? Yes, quite sufficient for Tunbridge District, without endangering the wants of the Bothwell people or Mr. Kermode's property.

205. If 4 feet of water runs out of Lake Sorell in the summer, and properly conserved in the winter, would the supply be kept up? Yes, taking the average year.

206. What is the rainfall in the Lake Country? The rainfall at the Lakes is much heavier than at either Bothwell or Tunbridge. This year the gate of the dam was kept open for 7 months, which never occurred before. Lake Crescent is lower than ever it was before, because no attempt was made to conserve the water.

207. *By the Chairman.*—Was not Constable Hastie in charge of the dam on behalf of the Water Trust? Yes.

208. Has that arrangement been altered? Yes, by the Water Trust. Mr. Kermode subscribed £10 for repairing the dam, conditionally that they let me look after the gate.

209. Was that arrangement carried out? I do not know. Mr. Kermode told me he had arranged with the Trust that it should be done, and that the escape drain I had recommended should be put in.

210. Have you charge of the gate now? No; I have not yet taken it over; but Hastie was told that his services would not be longer required.

211. You said the gate of the dam had been kept up during the last seven months? Yes.

212. Was not that because you had complained on behalf of Mr. Kermode that the water was damaging his property? Partly. Mr. Robert Kermode has written to his brother William. The Water Trust wrote to him and he let them dam up the water, but Mr. Robert says he will not have the water backed up. I have heard it rumoured that the Clyde Water Trust have purposely allowed the water to run out of Lake Crescent in order to show how little water there was in that lake so that the water would not be taken from Lake Sorell as proposed.

213. *By Mr. W. T. H. Brown.*—How far is your house from the Clyde River? From $2\frac{1}{2}$ to $3\frac{1}{2}$ miles.

214. You know the Clyde water-gate well? Yes; I see it frequently.

215. What state is the dam in? The dam is in very bad order, but the gate is in very good order. The dam leaks very much. It was not a substantial structure from the first, and has always leaked. On 16th August last year I made complaint to Constable Hastie of the overflow on the land. The water was flowing over the embankment of the dam for about 5 feet 3 inches, and the side of the embankment had been washed away to some extent. The gate was not up sufficiently high to allow the water to escape. Hastie said he could not lift the gate higher without an order from the Trust. Mr. Kermode wanted me to take the bullocks and pull the gate away, but I did not, and after some difficulty the gate was lifted. From 3rd November to present date the gate has been continuously up.

216. How is it that consistent with your statement that the Clyde Trust were purposely letting the water run to waste—you now say the gate was lifted on your instructions? They kept it up on that occasion for nine days, and put it down again. It was not for four months after that time that the gate was lifted permanently.

FRIDAY, AUGUST 24, 1888.

MR. E. A. COUNSEL, *Surveyor, recalled.*

217. *By the Chairman.*—By instructions from the Minister of Lands, you recently examined Lake Sorell and Lake Crescent? Yes.

218. What was the result of your examination as to the difference between the two lakes? There is 1 foot 6 inches difference of level between the two lakes.

219. *By Mr. Pillinger.*—Did you take a sketch? Yes; I prepared a section and a plan showing the levels.

220. Did you examine the proposed entrance to the tunnel? Yes, I examined that for the purpose of ascertaining the difference between the water level now and when Mr. Cutten took the levels, and I find that the level of the water at the present time is very nearly the same, there being only a 100th of a foot difference.

221. What was the difference in the time of the year? His report is dated May 16th.

222. *By the Chairman.*—And now, after all the winter rains, you find that there is only that much difference? Yes.

223. What is the difference now as compared with March last? The difference between now and March last, when I took the soundings, was $4\frac{1}{2}$ inches at Lake Sorell.

224. How much lower would you require to tunnel in order to take water at the same level from Lake Sorell as from Lake Crescent? About 1 foot. The tunnel would require to be lowered a foot before the two were on the same level.

225. Did you pay any attention to the question of the height to which Lake Sorell might be raised? I did not feel justified in taking it upon myself to go into that, but I looked at it before, and I still think about 1 foot 8 inches. I think Mr. Cutten's plan is not practicable to raise it 3 feet. I notice that the levels are just the same as when he proposed to raise it 3 feet, and that would necessitate an embankment for about two miles along the south-western portion of Lake Sorell.

226. Would two feet necessitate that? No, I do not think so. I do not think that 1 foot 8 inches would do any damage.

227. Do you think Lake Crescent of itself will be sufficient for the requirements of the Clyde district without being supplemented by water from Lake Sorell? I do not think it would.