**MURRAY BARRAGE BILL 1904**

1904.] Murray River Barrage BUI, 469

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**House of Assembly, 15 September 1904, page 468-72**

Second reading

The CHIEF SECRETARY, in moving the second reading, said he wished to take the opportunity to heartily congratulate Mr. Ritchie on the great mass of information he had given in an able speech some days ago when dealing with the whole question of the River Murray. Although the barrage question was involved in the other subjects touched upon, it was not the general object of his speech. They recognised that Mr. Ritchie had taken the deepest interest in connection with the Murray River question, and it was questionable whether anyone in the House was more conversant with the whole subject. In dealing with a question such as that it was necessary for members to see where the various places were from which the water entered the Murray mouth. In order to assist them he had had prepared a map, which was placed on the screen, showing the proposed barrages near the Murray mouth. They would see where the proposed embankments would have to be made to protect the lakes against the inflow of sea water which was the object of the Bill. The necessity for some work being carried out near the river mouth had been felt ever since the commencement of settlement in that part of the State. It was in 1866 that the residents of the surrounding districts memorialised Governor McDonnell that something might be done to assist them as regarded the overflow of sea water. Their proposals were for a barrage that would also be a roadway. That was a long time before the construction of railways, and the barrage would have provided a roadway on the direct route to Victoria by road. Later on the Surveyor-General (Mr. Goyder) made several reports to the Government in reference to the matter, and careful consideration was given to it. It was recognised by those who had studied the question that the water up to about Murray Bridge could be sweetened by stopping the direct flow of the sea into the river as the result of wind and tide. A Royal Commission was appointed in 1887, when Mr. Rounsevell was in the Ministry, and Mr. Catt was a member of the Commission. He believed Mr. Burgoyne, too, was a member. Amongst others Mr. Glynn was a member, and he was glad to know that gentleman still took a deep interest in the subject, and was doing good work for the State. The Commission took a great quantity of evidence in reference to the barrage and the river question generally but he would deal with the barrage feature only that afternoon. The preliminary report of the Commission in 1887, which was prepared by Mr. T. Parker, of the Water Conservation Department, showed that the scheme was quite feasible, and that the best position for the work appeared to be across the Mundoo channel, boundary creek, and the channels between Reedy Island and Pelican Point. It was creditable to the Commission and to the officers of the department at that time that the spot where it was now recommended the barrage should be built was almost the same as that recommended by them in 1887. In the first progress report of the Commission, dated May 29, 1890, mention was made of the investigation into the subject of shutting out tidal waters at the sea mouth, but no recommendation was made because of failure in all endeavours to arrange for an intercolonial conference. The endeavours to arrange for a conference between New South Wales, Victoria, and South Australia were frustrated by the action of Sir Henry Parkes, who looked upon New South Wales as Australia, and did not recognise that South Australia had any right to a conference. Later on the matter was brought forward in the Legislative Council by Mr. Angas, and a resolution was carried to the effect that something should be done near the mouth of the river to prevent the inflow of salt water. In their second report the Commission went further into the question, and stated:—“The proposed schemes for preventing the ingress of tidal waters through the mouth, to the injury of settlers on the lower parts of the river and on the Lakes Albert and Alexandrina, have been investigated, and the results are given; also evidence has been taken in reference to the locking of the river. Likewise among the appendix will be found a valuable report upon the feasibility of impounding the waters of the river to a certain extent and damming back the sea water, prepared by the Engineer-in-Chief to the order of the Legislative Council, and referred to this Commission. The estimated cost of this scheme £51,600. Your commissioners, appreciating the importance of maintaining the waters of the lower Murray and of the lakes at as high a level as may be practicable, have procured a subsequent estimate for schemes which respectively would cost £65,000 (gates with planks movable by hand), and £68,000 (self-acting iron gates). In regard to these matters, which are directly under the control of the South Australian Government, your commissioners are of opinion that no definite verdict or basis for a recommendation can be arrived at unless Parliament shall be pleased to order a detailed survey of the River Murray from our eastern boundary to its mouth.” Since that time a detailed survey had been made so far as the boundary of the State was concerned, and except that the estimate of the cost had been altered as the result of further investigations, the recommendations made by the Commission were practically the basis of the Bill. A Commission was appointed in 1902, consisting of representatives of New South Wales, Victoria, and South Australia, and they took voluminous evidence in reference to the necessity of doing something in the nature of constructing a barrage, and he would read some extracts from their report. They said:—“We are of opinion that the proper course to maintain a supply of fresh water is the construction of a work at the outlet to exclude the sea, so designed as to discharge river floods over its crest. An estimate of the cost of such a weir was, some years ago, given by the Engineer-in-Chief of South Australia as £51,600. In the apportionment of water recommended in this report, provision has been made of a sufficient volume to make good the losses by evaporation in the lakes.” On page 57 the second resolution reads as follows:—“That the storage reservoirs at Cumberoona and Lake Victoria, and the weirs at the Murray Mouth, shall be constructed at the cost or the three States in equal shares, and that the weir and head-works at Bungowannah shall be at the cost of New South Wales and. Victoria in equal shares.” Referring to the proposal of the Inter-State Commission, that New-South Wales, Vic­toria, and South Australia should mutually share the cost of the barrages at the Murray Mouth, on the basis of the Engineer-in-Chief’s estimate of £51,000, which was made conditionally upon a like mutual division of the cost of the Cumberoona reservoir above Albury, estimated to cost £787,500, and for a like division of the cost of Lake Victoria reservoir, in New South Wales, between Wentworth and the boundary, estimated to cost .£84,800, South Australia of course did not agree to the last suggestion, which was a clever one on the part of the New South Wales and Victorian representatives. The estimate for the barrage was about £51,000, whereas under the inter-State scheme to which he had alluded South Australia would have had to pay £307,966. Very wisely the Government were not committed to the report. The proposal for the Lake Victoria reservoir was one more distinctly in the interests of South Australia, from which this State would receive a considerable benefit. But notwithstanding the proposition that the other States would pay about £34,400 towards the barrage at the mouth on condition that South Australia paid £262,500 towards the Cumberoona reservoir was an absurd one. Mr. Catt’s evidence before the Commission was interesting, for no one had taken a greater interest in the work of the Commission. In reply to question 118, Mr. Catt said:—“Speaking from a South Australian standpoint, the most important aspect of the case to me is the keeping out of the salt water from the mouth of the river in the first place, that is to say, our Lakes Alexandrina and Albert are very much affected sometimes by the inflow of the salt water at the Murray mouth. There is a large tract of country there, which is settled upon, which is very badly off for fresh water, and should the flow of the river be very much decreased by extensive irrigation works, these lakes would become salt, and we should suffer very materially. I think an estimate was given to the Murray Waters Commission that a weir could be placed some little distance from the mouth for about £68,000, and I have always contended that as far as South Australia is concerned, that should be the initiatory scheme. That is where we should commence operations; by that means we could keep back the salt water, and conserve the fresh.” That was the view held by Mr. Catt and other members of the Commission appointed in 1887, and on the strength of that evidence the Government were asking the House to agree to the expenditure of a certain amount of money for the commencement of work at the barrage. In evidence also given before the Royal Commission, Mr. H. W. Morphett, a settler between Murray Bridge and Wellington, said in reply to question 704:—‘“I should certainly say that sufficient action should be taken to prevent salt water coming in; but if a dam were made at the Murray mouth it should not be at a very high level, because the tendency of a dam at the mouth, if at high level, in the event of flood waters coming down, would be to make our flood higher than it is now, and make our embankments more insecure than they are now. If a dam were built, I think ample means should be taken to let the surplus flood waters go. (Mr Peake – “I don’t think Mr Morphett is very strongly in favour of the scheme.”). Mr Morphett did not wish to oppose the scheme, but thought great care should be taken to prevent permanent barrages being erected as to continuously flood the low-lying lands. The barrage must be so constructed that they would let out a certain amount of water by movable shutters, and at the same time keep the sea water coming in. The majority of the members had had an opportunity of visiting the Murray mouth. In February, 1903, a large party of members went, and in April, 1903, a large deputation waited upon him and urged that something be done by the erection of a barrage or other means to prevent the salt water flowing into the river. The Hon W. B. Rounsevell put the case strongly when he said:—“The deputation desired to support any immediate action the Government might take in the direction of constructing a barrage, they ventured to urge the Government to be alert and recognise the necessity for immediate action with respect to the salting of the lakes of the Lower Murray.” At that time the water in the river as far as Murray Bridge was very brackish. At a low river it was nearly level from some distance above Murray Bridge to the sea, and there was very little current. In 1903 the Government instructed the Engineer-in-Chief to prepare a further report on the question, and appointed for his professional assistance Mr. W. Davidson, M.I.C.E., (inspector-general of public works, Melbourne), and Mr. Thomas W. Keele, M.IC.E. (principal engineer for harbors and river, Sydney). The scheme formulated comprised a weir and lock on the river channel near Goolwa, and a barrage in Holmes’ Channel, Boundary Creek, Ewe Island, to Tauwitcherie Island, and from the latter island to Pelican Point, the estimated cost being £113,339, inclusive of 10 per cent contingencies. In the Bill it was set out that the amount had been reduced. Since that report of what the Government intended to do a meeting of landowners had been held at Milang, at which Sir Lancelot Stirling, Mr. Blacker, and Mr. Ritchie were present. Among the leading landholders present were Messrs, Cherriton, Dunk, McFarlane, Cowan, Morphett, and Landseer. The meeting was unanimous that something should be done to stop the inflow of salt water, and the following resolution was passed:—“That this meeting of landowners on the River Murray and Lakes Alexandrina and Albert urge the Government to proceed with the works required to control the inflow of salt water into the lakes basin, by the construction of barrages in the Mundoo, Ewe Island, Deep Creek, and Tauwitcherie channels before undertaking the erection of that across the Goolwa channel.” A large deputation had waited on him this year, when it was strongly urged that work should be proceeded with as far as the construction of the barrage was concerned. The Engineer-in-Chief had written a very careful report on the question, in which he stated:—“As to the reduction of cost, there is ample room for difference of opinion as regards the style of construction to be adopted in a work of this character. Where it is possible, and where that style of construction would be effective, stone mounds would, in the long run, be more economical than timber structures, and I propose the adoption of this material as regards the Mundoo. Where the structure of the barrage has practically no foundations, the timber diaphragm is the cheapest method of securing the necessary watertightness, but I recognise—as did the board—that this style of construction is costly, and if it is at all possible to find a rock foundation all the way from Pelican Point to Mundoo Island, I believe that the construction of the barrage can be cheapened, but across the Goolwa opening I do not think this is possible.” He would also quote the Engineer-in-Chief’s remarks on the overflow of water:—It may be possible, at a moderate cost, to fix comparatively temporary arrangements of timber which, for the time, can be manipulated to give the desired results, but I feel justified in stating that such an arrangement would be costly to maintain and difficult to handle, and while it is not my province to express an opinion, I beg very respectfully to suggest careful consideration as to whether the result would justify the expenditure. Wooden, self-acting gates, especially when operated under low heads of pressure, have repeatedly been tried, and it has invariably been found that if they are able to be kept in even comparatively good order, they must be constantly attended to, and I have known cases in which they have been proved a complete failure. On the other hand, considerable experience has now been gained in dealing with permanent structures for barrage work under the most varying conditions, and, strangely enough, a valuable report has just appeared in the last number of the Proceedings of the Institution of Civil Engineers. In which case masonry piers and iron gates, to be manipulated as required, have proved not only permanent, but effective, but at a very high cost. To design an arrangement of this kind for use at the mouth of the River Murray will require time. I am still inclined to the opinion that if such an arrangement is ordered, the outlet near Tauwitcherie Island should be first considered, as I feel quite sure that to construct an embankment with a timber diaphragm across the main outlet of the Murray at Goolwa, and perch on top of it complicated gates for the three-fold purpose mentioned in paragraph 2, will lead to disappointment, dissatisfaction, and loss of money in the future.” That part of the report concerned the Goolwa channel, but not the barrages at other points of the river. This Bill only provided for the construction of the other barrages. The report continued:—“If the flooding of the flats to the full extent is an insuperable difficulty in regard to the adoption of the complete scheme proposed for keeping the lakes always fresh, and in view of the uncertainty regarding the actual flow of the river in the future, and if a tentative and partial scheme , is admissible, I beg respectfully to suggest that the best method of procedure will be to revert to the original idea, with some modifications of detail, of keeping the salt water out of the lakes, as referred to in paragraph 1, fastening down the swing doors at some seasons when it is deemed advisable to retain a quantity of fresh water, but releasing them at other times when it is necessary to reduce the quantity of water so held, and then look forward to providing an up-country storage to supply evaporation from the lakes, should it be found necessary to do so in the future. This partial scheme—tentative so far as providing water for evaporation is concerned— could be carried out for the sum named by the Hon. the Premier, viz., £100,000." Thus the Engineer-in-Chief provided for the escape of floodwaters, and for the protection from seawater at a cost of £100,000. Coming now to the Bill, hon. members would see that clause 5 provided that the Governor was authorised to construct and maintain the barrage, subject to Parliament subsequently approving the carrying out of the Goolwa Channel weir and lock, as provided in clauses 11 and 12. The estimated cost of £100,000 was in round figures the Engineer-in-Chief’s last revised estimate made very recently. The portion of the barrage marked on the deposited plan BB, CC, DD, and EE, was that part from the eastern end of Hindmarsh Island across the Mundoo Channel, marked BB. From Mundoo Island across the Boundary Creek to Reedy Island, marked CC, from Reedy Island to Tauwitcherie Island, marked DD, and from Tauwitcherie Island to Pelican Point, marked EE, and was estimated to cost £58,000. This work was what clause 7 took power for the construction of. The portion of the barrage, marked on plan AA, was the Goolwa Channel portion, near Goolwa, from the eastern end of Hindmarsh Island to the Goolwa side. It was estimated at £12,000. This was not to be carried out without further authorisation of Parliament. Clauses 8 and 9 provided for the work being done by contract. Clauses 11 and 12 provided for the approval of Parliament to be sought and obtained before the second part of the work, the weir and lock near Goolwa, estimated at £42,000, should be carried out. In clause 13 power was taken to levy tolls for the use of the lock on Goolwa Channel or other locks. In clauses 15 and 16 power was given to rate. The plan showed in two colours— red and yellow — the ratable lands, which were approximately within one mile of the water frontage, and only included land of an owner who held the land with a water frontage to the lakes and river. The lands coloured red were those from the site of the barrage to the upper end of Lake Alexandrina, immediately below Wellington. The ratable lands were shown coloured yellow, and these extended from Wellington to just below Murray Bridge. Clauses 17 to 24 provided for making an assessment of the unimproved value of the ratable land. Clauses 25 to 28 showed how the rates were to be levied on the lands shown coloured red and yellow respectively on the plan. In the red plan it was to be halfpenny in the pound on the unimproved value. The area of these lands was about 92,100 acres. In the yellow plan it was to be at one farthing in the pound on the unimproved value. The area was about 15,850 acres. The estimated amount of rates was between £500 and £600, and that would depend, of course, on the assessment of the value. The length of water frontage ratable was about 422 miles. The number of owners who would become liable for rates was about 120. Clauses 29 to 36 provided for appeals against the assessment in the usual manner. Clauses 37 to 42 provided the machinery for the recovery of rates. Clauses 43 to 48 set out that the Governor could appoint officers for the making of the assessment, the carrying out of the purposes of the Act, and the making of regulations. The Government considered that in the main this was a national question, but there were local benefits to be derived from it all the same. He looked upon the construction of the barrage as the beginning of a complete scheme to deal with the Murray waters questions. It was essential that this work should be carried out. If they were forced to do the work in the interests of the landowners around the lakes and river purely and simply they would have had to put the rate at a higher figure than now. The Government did not think it wise when they were advocating that as part of a national scheme to compel the people that happened to be residents, leaseholders, or owners in the immediate vicinity, to pay the interest on the whole expenditure in which the Government were going to be involved. (Mr. Tucker—“They ought not to pay any­thing.”) He thought they should pay a proportion of that amount. They had placed the contribution at a low amount that would probably bring in only £500 or £600 annually. (Mr. Tucker—“How much per cent, is that?”) On the £50,000 or £60,000 that they proposed to expend now it would be a little more than 1 per cent. (Mr. Tucker—“When you construct the Goolwa part will you increase the rate?”) They did not propose to increase the rate at all. When the Goolwa barrage was completed, they would obtain a certain revenue from the lock in that barrage. It would not be fair to increase the rate, because that portion would have to be considered as purely a national portion. (Mr. Burgoyne— “Have you plans of the proposed work here?”) He had not brought to the House sectional plans. A detailed plan would have to be prepared before tenders could be called for. He had some other reports in connection with that matter, but he would not refer to them at length at this stage. He wished to emphasise the fact that the Government were asking, by the adoption of the Bill, for power to expend between £50,000 and £60,000 on those works, which were recommended as part of a complete scheme for dealing with the question of the River Murray and its out-flow. They took power by that Bill for an expenditure of an additional £40,000, with the approval of the House later on. (Mr. Tucker—“That is for the Goolwa part?”) Yes. (Mr. Tucker—“Will you extend the area of taxation when that is done?”) No, because they had practically covered the area now. Some people, who had not a thorough knowledge of the question, said that by leaving the Goolwa channel open there would not be a possibility of any benefit at all. Those, however, most conversant with the matter would know that the Mundoo channel was almost opposite the mouth of the Murray. With the tide coming in the wind drove the salt water from the Mundoo channel into the lakes. By means of the barrages, however, they compelled the sea water, instead of going through the Mundoo channel into the lakes, a distance of about four or five miles, to go up the river proper, and it had to travel something like 20 miles before it reached the lakes, thus reducing the possibility of it reaching them. The partial scheme would certainly be beneficial, although perhaps not to such an extent as if the whole work were carried out. In committee he would be pleased to give all information desired. He moved the second reading of the Bill.

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On the motion of Mr. RITCHIE the debate was adjourned until Tuesday next.