

1874.

NEW ZEALAND.

INTRODUCTION OF SALMON OVA,

(FURTHER PAPERS RELATIVE TO THE).

Presented to both Houses of the General Assembly by command of His Excellency.

No. 1.

Mr. ANDREW to the Hon. the PREMIER.

SIR,—

Assembly, 20th September, 1873.

A sum of £500 was last night placed on the Estimates for salmon. I beg to call your attention to the enclosed extracts from a letter of Mr. Frank Buckland. Buckland is undoubtedly the greatest expert living, both theoretically and practically, on the subject. He recommends shipment of ova, at a cost of from £500 to £550, for three or four consecutive seasons. He would himself gladly undertake the charge of impregnating the eggs and supervising the packing and shipment. To give the best chance of success, the shipment should be made from the Clyde; but whether made from the Clyde or London, it is obvious that the ova, on landing, should not have to be re-shipped, especially by steamer. The percentage of eggs sent up to Lyttelton from the "Oberon," which hatched at Christchurch, was miserable. It was a little better, but still very low, with the eggs sent to the Bluff. Salmon ova remain unhatched in English or Scotch streams from 100 to 140 days. In high latitudes—for instance, the Zana or Posvig rivers in Lapland, which I have myself fished—the eggs are laid late in September or early in October, and remain unhatched till the end of May or the June following. There is no reason to doubt that at the temperature of melting ice the ova will keep good for six months. The real danger is from handling and shaking in transshipment and steamboat carriage. To make the thing a success it would, I think, be best to have the eggs landed at the Bluff and all sent to the Southland ponds. At one or two years old, according to development, the parr put on the smelt coat and go to sea. 4,000 or 5,000 young fish at least should leave together, to insure the return of a fair supply of spawners, and these spawners, meeting each other at the critical moment in the upper waters of the river, they ascend. The fish return invariably to the river they have descended. The colder the river the better: snow water is an advantage. If the fish are once established in any one river, there would be no difficulty in supplying all the streams in New Zealand. 100,000 to 150,000 eggs should be sent out; fifteen pair of decent-sized parents would yield this number. If from these eggs 10,000 smelt lived to go to sea, there is every reason to suppose that an industry would be established which, in one generation of fish, would pay the interest on a million of money. I beg to call your attention most earnestly to the necessity of immediate action, if a year is not to be lost. The Agent-General or Mr. Buckland should at once be telegraphed to. If the money voted be insufficient, Mr. Macandrew tells me that the liberality of Otago will make good any deficiency. Private business compels me to be away from Wellington for four or five days, or I should have waited upon you on this subject in person. There is no time to be lost.

The Hon. the Premier, Wellington.

I have, &c.,
J. C. ANDREW.

Enclosure in No. 1.

EXTRACTS from Mr. BUCKLAND'S Letter.

* * * * *

Nevertheless it is a matter of regret to all of us that this great and important undertaking was not allowed to assume the features of an official and international Government transmission of the elements of a vast industry at the antipodes, instead of being intrusted to one individual, to whom access to all the above-mentioned resources would have been freely open on application, which, however, was never made,

I candidly acknowledge that there is no man in the world who, from his practical experience, knows better than Mr. Youl how to pack salmon eggs on board a ship which is bound to the antipodes; but at the same time, I cannot help observing that Mr. Youl has assumed to himself the knowledge of a matter *ultra vires* when he practically takes the command of collecting salmon eggs which, indeed, is the most important operation in the whole affair.

extract from a letter addressed by me on the 2nd instant to the Agent of this Province in Edinburgh, on the subject of another shipment of salmon ova from the Clyde, to be landed at the Bluff.

I have, &c.,

J. MACANDREW,

Superintendent.

The Hon. the Colonial Secretary, Wellington.

Enclosure 1 in No. 5.

His Honor the SUPERINTENDENT, Otago, to Mr. AULD.

(Cablegram.)

ARRANGE shipment salmon ova from Glasgow, provided you can get Buckland to supervise shipment there.

Auld, Otago Office, Edinburgh.

MACANDREW.

Enclosure 2 in No. 5.

EXTRACT from a Letter from his Honor the SUPERINTENDENT, addressed to JOHN AULD, Esq., British Agent for the Province of Otago, dated 2nd October, 1873,

* * * * *

I have this day requested you, by cable, to obtain another shipment of salmon ova, to be shipped in one of the smartest of Messrs. Patrick Henderson and Co.'s clippers, said ova to be shipped at Glasgow for Bluff Harbour direct, together with as many immigrants as can be had for the same port.

Mr. Frank Buckland has, I understand, expressed his willingness personally to supervise a shipment at Glasgow, and from his well-known enthusiasm in the matter, he will no doubt go into it *con amore*. We have all the appliances for hatching at the Southland ponds, which are under the care of an experienced hand, who will give full effect, as respects the treatment of the ova, to whatever directions Mr. Buckland may send.

You will have gathered from my cablegram that unless the shipment can be made from the Clyde, it is not to be undertaken. The object of making this a *sine qua non* is, that, as a rule, the Glasgow ships make the passage in a shorter time than those from London, and the success of the experiment depends upon the length of the voyage being shortened. I trust that ere this reaches you the necessary arrangements will have been completed, and that the shipment will be more successful than any that have preceded it.

I have, &c.,

J. MACANDREW,

Superintendent of Otago.

No. 6.

The Hon. W. H. REYNOLDS to the AGENT-GENERAL.

SIR,—

Colonial Secretary's Office, Wellington, 27th October, 1873.

I have the honor to inform you that during the recent Session of Parliament a sum of £500 was voted for the introduction of salmon ova, and it has been decided, at the request of the Superintendent of Otago, to hand the control of that sum over to his Honor for the purpose.

I now forward, for your information, the copy of a correspondence between Mr. Macandrew and the Agent of the Otago Government at Edinburgh, on the subject of a proposed shipment of ova from the Clyde to the Bluff Harbour.

The Agent-General for New Zealand, London,

I have, &c.,

W. H. REYNOLDS.

No. 7.

The AGENT-GENERAL to the Hon. the COLONIAL SECRETARY.

7, Westminster Chambers, Victoria Street, Westminster, S.W.,
20th January, 1874.

SIR,—

I have the honor to acknowledge receipt of your letter of 27th October (No. 141), on the subject of a proposed fresh attempt to introduce salmon into New Zealand.

On learning that Mr. Auld had been instructed to seek the co-operation of Mr. Buckland, I at once offered to give this gentleman any facilities or assistance in my power, and on his application, I placed him in communication with Mr. Johnson, who had constructed the ice-house for Mr. Youl on board the "Oberon".

I regretted to learn subsequently from Mr. Buckland, that, owing to the advanced state of the season, and to the circumstance that the fish had this year commenced spawning earlier than usual, he had been reluctantly compelled to postpone his operations altogether till next season.

I have, &c.,

I. E. FEATHERSTON,

Agent-General.

The Hon. the Colonial Secretary, Wellington.

No. 8.

Mr. PERKINS to the Hon. the COLONIAL SECRETARY.

SIR,—

Committee Rooms, Eldon Chambers, Invercargill, 5th November, 1873.

I have the honor to advise you that, by resolution of the Committee of the Southland Acclimatization, I am directed to intimate that in the opinion of the Committee it is desirable that immediate action should be taken to secure a direct shipment of salmon ova from the Clyde during the present season, in pursuance of and to the extent of the vote in the late Session of the Assembly.

The Committee would further very respectfully suggest that, as the saving of time is a very important element, and of this there is really none to spare if success is to be achieved, that in forwarding instructions the cable might be used, the additional cost therein being advisable in view of the increased probability of success.

If it were possible that the shipment could be direct to the Bluff (of which, however, it is feared there is little probability) the risk of failure would be reduced to a minimum, and the year's experiment conducted on the nearest approach to a certainty of any experiment yet made.

I have, &c.,

THOMAS PERKINS,

Pro Hon. Secretary to Acclimatization Society.

The Hon. the Colonial Secretary, Wellington.

No. 9.

The UNDER SECRETARY to Mr. PERKINS.

SIR,—

Colonial Secretary's Office, Wellington, 18th November, 1873.

I have the honor to acknowledge the receipt of your letter of the 5th instant, and in reply am directed by the Colonial Secretary to inform you that the management of the shipment of salmon ova this year has been confided to his Honor the Superintendent of Otago, who, on the 2nd October, telegraphed for a shipment from the Clyde direct to the Bluff, to be packed under the personal supervision of Mr. Frank Buckland, and on the same day His Honor wrote a full letter of instructions to Mr. Auld, the Agent of the Otago Government at Edinburgh.

I have, &c.,

G. S. COOPER,

Under Secretary.

Thomas Perkins, Esq., Hon. Secretary, Acclimatization Society, Invercargill.

No. 10.

The Hon. W. H. REYNOLDS to His Honor the SUPERINTENDENT, Otago.

SIR,—

Colonial Secretary's Office, Wellington, 12th January, 1874.

I transmit, for your Honor's information, the copy of a letter from Mr. C. B. Fryer, of the Salmon Fisheries Office in Westminster, addressed to Mr. W. L. Buller, on the subject of the growth of the young salmon in New Zealand, and offering suggestions thereon.

I have &c.,

WM. H. REYNOLDS,

His Honor the Superintendent, Otago.

(In the absence of the Colonial Secretary).

Enclosure in No. 10.

Mr. FRYER to Dr. BULLER.

Salmon Fisheries Office, 4, Old Palace Yard,

Westminster, S.W., 14th October, 1873.

MY DEAR SIR,—

Since I had the pleasure of meeting you a few days ago, I have carefully considered the question of the chances of the young salmon, when they arrive at the "smolt" stage and descend to the sea, returning up the river as "grilse."

If Mr. Buckland's suggestion is adopted, and the young fry, when about six months old, placed in a well-watched piece of water, best adapted for their growth, with a grating or other means adopted for preventing their escape down stream, I should suggest that they should be kept there for another eighteen months, after which they should be transferred to the sea shore, and placed in a similarly protected spot in the sea. It might be possible to carry out this arrangement in some small arm of the sea, where they could find sufficient food, where they would be protected from predaceous fish, and where they would become mature enough to develop spawn. However, the safer plan would be to place the smolt in a large marine aquarium, with a constant supply of well aerated water, and with food such as shrimps, the *infusoria* naturally found in the sea water, &c. In such an aquarium the fish would thrive and become sufficiently developed to produce spawn. When the time comes, they might be transferred to the river to perform their natural functions in the ordinary way, or the spawn might be artificially taken from them, impregnated, and treated in the same way as the eggs from which the young fish now living were produced. If such an experiment were successfully carried out, thousands of ova would be at once available in New Zealand, without the necessity of shipping them from England. I have hastily written this sketch of what I propose, and I should be glad if you would submit it to the

authorities in New Zealand. I shall take an early opportunity of calling upon you and further explaining my idea.

I cannot conclude without congratulating the authorities on the partial success, so far, of the experiment, and expressing my best wishes for the complete fulfilment of the desirable object we have in view, viz., the permanent introduction of salmon into New Zealand.

I am, dear Sir,
Faithfully yours,
CHARLES E. FRYER.

Dr. Buller.

No. 11.

His Honor the SUPERINTENDENT, Otago, to the Hon. the COLONIAL SECRETARY.

SIR,— Superintendent's Office, Dunedin, 22nd January, 1874.

I have the honor to acknowledge the receipt of your letter No. 372, 12th January, 1874, enclosing copy of a letter from Mr. C. B. Fryer, on the subject of the growth of the young salmon in New Zealand, and offering suggestions thereon.

I have, &c.,
J. MACANDREW,
Superintendent.

The Hon. the Colonial Secretary, Wellington.

No. 12.

The Hon. the COLONIAL SECRETARY to His Honor the SUPERINTENDENT, Otago.

SIR,— Colonial Secretary's Office, Wellington, 27th March, 1874.

Adverting to former correspondence on the subject, I transmit, for your Honor's information, a copy of a letter from the Agent-General,* stating that, owing to the fact that the fish had commenced spawning earlier than usual, the attempt to introduce salmon this year had to be abandoned.

I have, &c.,
DANIEL POLLEN.

His Honor the Superintendent, Otago.

* For enclosure, *vide* No. 7.

By Authority: GEORGE DIDSBUXY, Government Printer, Wellington.—1874.

Price 6d.]

