ALEXANDER JOHN RUTHERFURD examined. (No. 23.)

1. *The Chairman.*] What are you?—I am a vice-president of the Wellington Acclimatization Society.

2. Do you wish to make a statement to the Committee?—No, I have no wish to take up the time of the Committee by making any statement. I have made a study of the pollution of waters as far as I have had opportunity, and any information I can give to the Committee that would be useful I should be most happy to supply.

3. *Mr. Buick.*] Do you know of any instance where the putting of flax-refuse into a stream has damaged the fishing-qualities of that stream?—Yes. I have had a good deal to do with flax. Away back in the "seventies" I was engaged in dealing with flax-mills in Otago. There is no question as to the damage done to water by the effluent from a flax-mill. It is a question of concentration. In the case of a small stream, if the whole of the water in that stream is put through a flax-mill and turned back into the stream by a ditch, for a long distance below that stream becomes an abomination of desolation. The stock will not drink it; they refuse to do so. Horses sniff and turn up their noses at it. It is a question of the extent of the dilution by water of the effluent. The effluent itself is noxious. The evidence given before the Committee will show that the butt and root of the flax contains a fairly strong bitter laxative. I have used it in camp, and it has acted as a purgative. There is no doubt that the extract of the root of the flax has very much the same effect as bitter aloes, and it is used by the Maoris as a laxative. The question before the Committee really is the amount of concentration of this effluent and the pulp and fibre in it. If there is a large body of water and considerable fall in the stream, well, the effect is comparativley small; but if there is a small body of water into which the effluent is flowing and little fall, it becomes concentrated and beastly for miles below the place where the stream is flowing, and the stock will not look at it. The water is dead, and there is little life in it. I am instancing a small stream at Alfredton. When that mill is running half time the stream is passable, but when it is running full time it becomes black, and absolutely unfit for fish-life or for use for stock.

4. *Mr. Sykes.*] Is it not a fact that water flowing through a flax swamp, even if unpolluted by flax-mill effluent, is almost unfit for human use?—Practically an extract from the peaty soil. There are different classes of discoloration. The peaty streams in the mountains in the South Island, where the water flows from the peat, are dark. The discoloration is not similar to the colour caused by flax effluent; it is a different thing, and not so unwholesome. Stock drink the water freely.

5. It is really unfit for human use?—Unless boiled, I would not like to drink it. There is one point that I do not think came out before the Committee in connection with dairy-factory effluent. I think something might be done by cultivating nature's scavengers in the rivers. The eels, bullies, crayfish, and inanga use up to a large extent the animal matter flowing from the dairy factories, and the more they can be encouraged about the place where the effluent comes out the better.

6. *Mr. Buick.*] What are those fish you mentioned?—The eel, the koura or crayfish, bullies, larvæ of insects, and the little water-beetles, &c.—all that class of life will act as scavengers.

7. *Mr. Sykes.*] Of course, naturally they will make their way there?—Yes, and the more they are encouraged the better for the river.

8. *The Chairman.*] You have had to do with flax-mills?—Yes.

9. Do you know of any instances of damage to stock in cases where they have been compelled to drink the water from flax-mills in the absence of any other?—No, I do not. I have not come across any such instance. I know that the water is often so bad that they will not touch it.

10. Can you assure the Committee that of your own personal knowledge you have seen stock absolutely refuse to drink the water?—Absolutely refuse; the water becomes stale-smelling, black, and disgusting as the vegetable matter decomposes.

11. Apparently it would be like soup?—Yes, beastly.

12. Do you think that would kill trout?—Oh, yes; they would not go near it; they would try to escape from it.

13. What about eels?—They do not like it. I have taken some trouble over this matter. I have explored for eels and koura in these places, and I found a few small ones, but not large ones. I am talking about the concentrated essence, where the whole of the water is diverted through the mill and goes back into the stream again.

14. A large quantity of refuse to a small quantity of water?—Yes, a concentrated essence.

15. You have been a long time in New Zealand?—Yes, about fifty years.

16. Speaking broadly, do you see any necessity for this Bill?—No. I look upon it as a mistake to provide for specific instances by general legislation. There is no doubt that this case that has occurred at Oroua has been brought before the Government, and they have brought in a general Bill to provide for this special case at Oroua.

17. Have you had any opportunity of visiting the Manawatu district?—Yes, I fished in the Oroua River a good many years ago.

18. You know nothing of the conditions now?—No.

19. And you know nothing of stock actually poisoned?—No, I have not come across an instance of it.

GILBERT LAING-MEASON examined. (No. 24.)

1. *The Chairman.*] What are you?—I am a civil engineer practising in Wellington, and a member of the Institute of Civil Engineers, England.

2. The Committee has been informed, Mr. Laing-Meason, that in the course of your professional duties you have been brought in contact with the flax industry in its relation to rivers and so on. Could you give the Committee any information?—I certainly have not had very much