

STATES OF JERSEY

Environment Security Panel Energy from Waste Plant and Ramsar: Review of Planning Process

WEDNESDAY, 8th JULY 2009

Panel:

Deputy P.J. Rondel of St. John (Chairman)
Deputy D.J.A. Wimberley of St. Mary (Vice Chairman)
Connétable J.M. Refault of St. Peter
Connétable P.F.M. Hanning of St. Saviour
Mr. R. McInnes (Adviser)
Mr. M. Orbell (Scrutiny Officer)

Witnesses:

Mr. A. Legg (Jersey Aquaculture Association)
Mr. A. Syvret (Save Our Shoreline)
Mrs. L. Luke (Save Our Shoreline)

Deputy P.J. Rondel of St. John (Chairman):

It is 1.30 p.m. If we are all ready I will declare the meeting open. The meeting this afternoon is to discuss the Ramsar and then Energy from Waste Plant, the effects on the Ramsar site and the planning process. This afternoon I will start off by introducing myself. I am Deputy Phil Rondel, the Chairman.

Deputy D.J.A. Wimberley of St. Mary (Vice Chairman):

Deputy Wimberley, Vice Chairman.

Connétable J.M. Refault of St. Peter:

Connétable Refault, member of the Scrutiny Panel.

Connétable P.F.M. Hanning of St. Saviour:

Peter Hanning, Constable of St. Saviour.

Mr. R. McInnes (Adviser):

Rob McInnes, consultant to the Panel.

Mr. M. Orbell (Scrutiny Officer):

Malcolm Orbell, Scrutiny Officer.

The Deputy of St. John:

If you could give your names, please.

Mr. A. Legg (Secretary of the Jersey Aquaculture Association):
Tony Legg, Secretary of the Jersey Aquaculture Association.

Mrs. L. Luke (Save our Shoreline):
Lara Luke, Save Our Shoreline.

Mr. A. Syvret (Save our Shoreline):
Andrew Syvret, Save Our Shoreline.

The Deputy of St. John:

Thank you. We have already met with you all on an earlier occasion, apart from yourself, Mr. Legg. This afternoon is to get more information from you hopefully so that our adviser can put questions to you. So he will be the prime source of questioning this afternoon but the Panel themselves will put supplementary questions. Thank you. Will you sum up, please, Robert.

Mr. R. McInnes:

Yes. One of the key issues regarding the whole Environment Impact Assessment process is the whole issue of consultation and involvement of other organisations beyond government departments. That involvement can be a variety of stages. It can be a pre-scoping, it can be a scoping, it can be data collation, it can be post-submission, it can be post-determination and then to reserved matters. One of the things that I am trying to understand better is how robust and how far did that process follow best practice. That is one area I want to focus on initially and I will pick up some questions for you individually in terms of that consultation process. There is also another issue which has obviously come to light. Primarily post-determination, but maybe that is an incorrect assumption on my behalf, there might be more chronic issues, residual impacts going on within the environment that also need to be picked up on, which might not be necessarily explicitly germane to the determination of the Energy from Waste Plant decision but maybe should have been picked up as part of a baseline in terms of assessing the existing environmental conditions. But also might be more of a chronic long term impact upon the Ramsar site which also forms part of this review, if recommendations can go forward on how, if such a chronic impact does exist, that can be dealt with and that would be beneficial. What I really want to start off with in the first question ... for those of you that might have been listening to this morning's hearing, there was a process which seemed to start around about the end of 2005 and ran until about May 2006 which was called pre-scoping where, because at that stage there was still no definitive scheme on the table, information was being sought from various sources to say what needs to be assessed, what should go into an impact assessment. I just want to know what involvement any of the non-governmental organisations and the ones represented here today had in that process.

Mr. A. Legg:
The answer is nil.

Mr. A. Syvret:
Likewise. If I can go back a little bit further than 2005, I was part of a working group created by the Jersey Environment Forum to review the waste management strategy, the Island's waste management strategy, so we are a stage ahead of even deciding on

an incinerator, or at least I thought we were a stage ahead of deciding on an incinerator. I resigned from the Environment Forum largely because I viewed the installation of a new incinerator either at La Collette or at Bellozanne as an absolute *fait accompli*. So, it is fair to say that, as an individual, I took my eye off the ball and was not aware of the processes that you are describing at any stage whatsoever. We have mentioned, I think, that there is a Ramsar Steering Group or there was a Ramsar Steering Group ...

Mr. R. McInnes:

Yes, it was set up was part of the formal notification process.

Mr. A. Syvret:

Yes, and there is also a Marine Resources and Sea Fisheries Advisory Panel which is an organisation of Planning and Environment and Economic Development combined. I was a member of the Sea Fisheries Advisory Panel and was not aware of any discussions on this issue and, contrary to a statement made by the Environment Minister, reference the Ramsar Steering Group in the States, he described it as a dead organisation that had not met since our first Ramsar site was designated in 2001. I have minutes from 2 meetings that took place in 2003-2004 where we were discussing the offshore reefs. So, there were 2 very active, live and willing consultory bodies but I think it is far to say, to encapsulate the situation, you will not get consulted unless you are going to agree with the outcome they desire.

Mr. R. McInnes:

Just coming back to those 2 bodies that you talk about, I mean the Marine Resource and Sea Fisheries Advisory Panel is listed on the States of Jersey Who's Who and you are saying they were not ...

Mr. A. Syvret:

I was a member of the Panel at that time and was not aware of it. I mean this is the sort of thing ... it may have been discussed, it may not be minuted, it may have been just a casual ... but it is not something that was discussed in the detail it should have been.

The Deputy of St. Mary:

In what capacity were you a member, just brief details?

Mr. A. Syvret:

I was representing recreational fishermen.

The Deputy of St. Mary:

It was not as in an official ...

Mr. A. Syvret:

No, no. I was a member of the Panel, yes, but ...

Mr. A. Legg:

I would concur with that. We, as the Association, look at the minutes of the agendas of the Panel meeting because we often have an input and that just did not come up.

The Deputy of St. John:

Could you describe the industry itself, please?

Mr. A. Legg:

Yes, the primary part of the industry is oysters, the *crassostrea gigas*, of which we are producing approximately 1,000 tonnes a year. Now, to put 1,000 tonnes a year into perspective it is only 0.6 per cent of the French production and it is exactly equivalent to the entire U.K. (United Kingdom) and Northern Ireland production so we are big players to the south of the U.K. but small players as far as France go. All of our product, with a very small exception, is sold into France. There is also a moderate amount of mussels sold, that is 170 tonnes of mussels and I am currently involved with a fairly substantial ormer project. I have got a small amount of ormers on the go at the moment but hopefully the Panel meeting this afternoon will change to a bigger operation.

The Deputy of St. John:

The ormer industry, is it a large investment?

Mr. A. Legg:

It is a very large investment in time. I would say it is a 25 year struggle, from my point of view, and it is now at a position where it is very heavy on information and knowledge and quite light on equipment. So, it is quite achievable with ... I am ready to go with this particular 6 to 12 tonne operation and everything is in place and it has not cost a phenomenal amount of money.

The Deputy of St. John:

The return on ormer, I believe, is very good.

Mr. A. Legg:

Yes, hopefully. As with all fish farming it is when you sell them you make the money but they do have a horrible habit of not getting quite to that point. There are 4 active oyster farmers, by the way, and 2 of them are moderately large. They are of the 400 tonne a year production level and the other 2, one of which is me, about 100 tonnes a year.

Mr. R. McInnes:

It is fair to say that the ormer is also listed as one of the designating features on the Ramsar ...

Mr. A. Syvret:

It is part of the action plan.

Mr. R. McInnes:

Yes, that is right. So, it is one of the features for which the Ramsar site qualifies a designation. Just coming back to the Ramsar Committee, did that committee ever have any formal terms of reference that you are aware of?

Mr. A. Syvret:

I was the Executive Officer of the Ramsar Steering Group when I was the Coastal Officer of the Planning and Environment Committee for 5 or 6 years. I doubt you

would find it enshrined on a single side of A4 but if you were to peruse the archives you would certainly come to an understanding of what the terms of reference were. It was inaugurated by the then Deputy Maurice Dubras and was successful. I have the minutes here. I have got a couple of other supporting documents here that perhaps are on the website that you might not have seen so, if permissible, I will furnish you with those in due course.

Mr. R. McInnes:

Okay. So, we have established that, in terms of that pre-scoping exercise that was undertaken around the end of 2005, beginning of 2006, there was no consultation, from yourselves as N.G.O.'s (non-governmental organisations). There then starts the whole Environment Impact Assessment process once the site has been selected and the pre-scoping now becomes effectively redundant because they have scoped out a site. During that process, obviously as organisations, you hold information. You are aware of what is going on in the environment. Were you ever consulted and not necessarily asked your opinion or your view but asked to provide information on, for instance, areas and numbers and volumes or the weights of fisheries?

Mr. A. Legg:

No, but that information would have been available to fisheries in any case and so it is likely that the Sea Fisheries Officer, for instance, would have been the person to have been approached for that.

Mr. A. Syvret:

This is the situation we face. The developer will come to the regulator for his information because all the ecological information that exists, apart from some that is in private hands, myself and places like the Société Jersiaise, is basically government property. The surveys are being paid for by the Planning and Environment Department and we got horribly caught up in the scoping world this morning but, just as an example, scoping, as an exercise ... you probably will not be familiar with this but we can show it to you I am sure, Green Island which is a tiny little outcrop down on the south-east coast, within the Ramsar site, that environmental impact assessment for the remedial work, it is a very small sea wall and a couple of rock armour sections, that was scoped. So the idea that the environmental impact assessment for a £100 million plus incinerator did not require scoping, is frankly laughable.

Mr. A. Legg:

I think I have to put this in perspective as well. One of our members is looking to move his storage area for oysters which is an area of about quarter of a hectare. There are 3 in Grouville Bay relatively high up on the shore so that you can access on most tides. He wants to move it to 200 metres and he now has to do a full E.I.A. (Environmental Impact Assessment) on that.

Mr. R. McInnes:

Because?

Mr. A. Syvret:

It is required.

Mr. R. McInnes:

All right. So in terms of them being consulted ... as to not necessarily being asked for information you might hold but being consulted in terms of what your views were, at any point prior to the public dissemination of the environmental statement were you consulted?

Mr. A. Syvret:

No.

Mr. R. McInnes:

All right, okay. Obviously then the environmental statement goes into the public domain. Prior to that, it is a small island and I assume people know things are going on, did any organisations make any representation? Did they ask to be involved in the process? Did they offer information prior to the E.S. (Environmental Statement) getting into the public domain?

Mr. A. Legg:

No, we did not. Perhaps we should have but it all appeared to be a *fait accompli* in any case and at the time, from the Aquaculture Association point of view, there were not going to be new discharges, that the ash was being contained in pits as it had been for some time and there was no indication that there was going to be any additional issues from our point of view.

Mrs. L. Luke:

I did put one in personally but it was not on behalf of Save Our Shoreline and I think that was at the tail end of last year. I would have to find it somewhere. It was concerning that they had not sort of taken into consideration anything to do with the Ramsar site. It got turned down anyway.

Mr. R. McInnes:

But that was just a personal submission.

Mrs. L. Luke:

It was.

Mr. R. McInnes:

Was that before the environmental statement was in the public domain?

Mrs. L. Luke:

No, it was after the environmental statement because I had it forwarded by a gentleman at Planning, so it was when I read it. It started off because I was asking why they had not taken it into consideration and he said: "It was" and I said: "Well, in what respect?" and then it was purely the water. At the time I was saying: "Well, what about potential from the air pollutants, is that it taken ...?" and that is why he forwarded me the copy and I read through it and I could only find a very minimal amount on the water aspect but nothing else.

Mr. R. McInnes:

So then determination, granted planning permission, pending reserve matters. At that stage obviously you then reviewed the E.S. Did you have a chance to review the E.S. and did you provide comment directly at that point to Planning ...?

Mr. A. Legg:

Again, it was not applicable to us seemingly at the time.

Mr. R. McInnes:

Okay, and for Save Our Shoreline?

Mrs. L. Luke:

Well, I had done it personally ...

Mr. A. Syvret:

It is difficult to convey how cynical I am. **[Laughter]**

Mr. R. McInnes:

I think you have just done it.

The Deputy of St. Mary:

I suppose, if I may just ask a little question, would you have found it preferable to have been asked to really take part in the scoping as opposed to the E.S.?

Mr. A. Syvret:

Absolutely, yes. It is, how can one put it, slightly irritating to find that a lot of the material that is being used in the environmental impact statement is simply the reissuing of material that I prepared at the Ramsar citation when I was the Coastal Officer. A lot of the material that you heard this morning was based on foundations that were developed between 1996 and 2001 when the States of Jersey first made a commitment to developing the Coastal Zone Management Strategy. So, a lot of the inventory of sampling that you were told about this morning and a lot of the understanding, the data sets that pre-exist for the Ramsar site were collected, if you like, while I was looking after things.

Mr. R. McInnes:

Can I just explore your cynicism? Why?

Mr. A. Syvret:

Why? The environment is always supplementary to political expediency in this Island and that is my historic experience. I think personally, speaking perhaps for Save Our Shoreline as well ... you just used the word "chronic" to start off at your introduction and certainly cynicism probably gave way to outrage at the end of last year, the beginning of this year, when the window was opened on the chronic problem. As a pseudo States employee, because I was employed as a consultant for 6 years, the action of the States environmentally left me with no decision but to become cynical and to simply leave States employment.

The Deputy of St. Mary:

Going back to when you resigned from the working group of the forum and you said: "because it became clear that ..." could you explain that, becoming aware that this is no longer ...?

Mr. A. Syvret:

I made it perfectly clear to the Environment Minister, to Senator Cohen at the time, at my last meeting that essentially ... I mean Babbie Fichtner had a prescription, as far as I could see and as far as a number of others could see, and public services as well had bought into that prescription.

The Deputy of St. Mary:

Babbie Fichtner, already on the scene, what year are we talking about?

Mr. A. Syvret:

Oh, Babbie Fichtner have been on the scene for 12 to 15 years.

The Deputy of St. Mary:

Yes, and 2003 you resigned?

Mr. A. Syvret:

Yes, prior to that, prior to that.

The Deputy of St. Mary:

No, no. When did you resign?

Mr. A. Syvret:

2003.

The Deputy of St. John:

Carry on, please, Robert.

Mr. R. McInnes:

Okay. I think I might know the answers to these questions but I am going to ask them anyway. As representatives of N.G.O.'s on Jersey, would you say that, at any point, the E.I.A. process has been participative?

Mr. A. Legg:

The answer is no.

Mr. R. McInnes:

Engaging?

Mr. A. Legg:

No.

Mr. R. McInnes:

Empowering?

Mr. A. Legg:

No.

Mr. A. Syvret:

In existence? **[Laughter]**

Mr. R. McInnes:

No, the process was in existence but what I am doing is I am picking words used from best practice for E.I.A.

Mr. A. Syvret:

No, not at all. I think if I can elaborate a little. We heard this morning from the Director of Planning that they are the regulator and that they are the recipient of a planning application and obviously we understand that role. They have that role to play. They are also administrators on the Island's behalf of the Ramsar which instantaneously makes me very uncomfortable. As far as the actual process of E.I.A. is concerned, I do not see how, with our existing Planning and Environment 2-headed organisation, that an objective and independent E.I.A. could ever have been done in the first instance. So, I mean if we go back to cynicism and the fact that the wheels have come off the planning process, in my opinion.

Deputy of St. Mary:

Would you like to comment on what was talked about this morning because you heard the hearing about the roles T.T.S. (Transport and Technical Services) and Planning and Environment were playing in this matter?

Mr. A. Syvret:

Well, we obviously went into detail as far as scoping is concerned and we kept on hearing the expression from the Director of Planning that if Transport and Technical Services were comfortable with what they knew then we were comfortable with the situation. I do not think that is a suitable position for a regulator to take, as a personal opinion, but also they are talking about using the departmental and professional judgment assessing this planning application. Now, surely you would shout from the rooftops far and wide if anybody has anything to add and I have material to add, I have data to add. One of the things I am concerned about is - and this was a point raised by the Connétable this morning - that we have a data series. The University of Portsmouth, the Wildfowl and Wetlands Trust and the University College of London have been sending people to Jersey, both paid and unpaid, for many years to research the coastal compartment at Havre des Pas. Now, we saw the list of documents but we did not, as you say, see any analysis of it whatsoever. Now, I know from my own personal observation, my own personal data, that that coastal compartment is changing and it is changing quite rapidly. Now I, as the Connétable suggested, would have thought that a pre-study, an existing baseline study, because nothing has been done since 2003/2005, would be an absolute prerequisite. Again, as an analogous situation, when the Waterfront Enterprise Board were talking about expanding Havre des Pas swimming pool with the then Planning and Environment Committee, we brought the Wildfowl and Wetlands Trust in, they surveyed that coastal compartment because of something as minor and as insignificant as the potential redevelopment of a Victorian bathing pool. So the approach simply has not been consistent at any stage.

Mr. R. McInnes:

Just coming back to that, you said that you had information, some personal information or information from Save Our Shoreline but you did not feel it appropriate to submit that at any point during this E.I.A. process?

Mr. A. Syvret:

Well, I have got to the point now that my ecological data in a lot of cases is very carefully guarded because I will expand the argument in some respects. But in terms of watching dolphins I do not submit my sightings data to the States database because the States database is public. So, sensitive ecological data is exactly that, it is sensitive. Sometimes it is best in the public domain and sometimes it is not best in the public domain and I have provided information before that has quite happily stitched me up. I have provided information, ecological information and, to be honest with you, it has been used in an argument against conservation rather than for conservation. So, these days it is pretty close to the chest and that is a great tragedy for something like a government.

Mr. R. McInnes:

Yes, but it is also, in terms of the E.I.A. process, a great tragedy because it means that an assessment is being made on even less than perfect information.

Mr. A. Syvret:

Absolutely, yes.

Mr. R. McInnes:

Some of that information on dolphins could have been quite germane as they are one of the qualifying criteria within the Ramsar designation. Okay, post-determination and as the reserve matters took off, I know Save Our Shoreline has had contact with the Ramsar secretariat, was that post-determination or was that pre?

Mr. A. Syvret:

That was post-determination.

Mr. R. McInnes:

That is what I thought it was.

Mr. A. Syvret:

That was when the groundworks were opened up ...

Mrs. L. Luke:

Oh, I do not know. I got in contact with them in the summer last year.

Mr. A. Syvret:

Last summer, okay. Well, that was prior to our ...

Mrs. L. Luke:

Yes, and they knew nothing about it. It was prior ...

The Deputy of St. John:

Could you speak to the chair, please, not across the room.

Mrs. L. Luke:

So sorry. Prior to joining up with Save Our Shoreline, I independently contacted Ramsar and asked what their thoughts were on the building of the Energy from Waste Plant.

Mr. R. McInnes:

That was in summer 2008?

Mrs. L. Luke:

It was. Well, I would have the exact dates on my emails because I have kept them all.

Mr. R. McInnes:

So that would have been post-determination.

Mrs. L. Luke:

Yes.

Mr. R. McInnes:

As far as you know was that the first approach to Ramsar from yourselves or from the States?

Mrs. L. Luke:

Well, it was the first I did, I believe Save Our Shoreline had not ... had you been in contact with them?

Mr. A. Syvret:

Yes, that is the first extension to Ramsar from the Island that I am aware of.

The Deputy of St. Mary:

What was their reply?

Mrs. L. Luke:

They did not really know anything about it so the lady I emailed, she put me in contact with somebody else who then transferred the emails so there was a link and they were going to look into it and get in touch with the States here. I can provide you with the emails so you can have the exact wording.

Mr. R. McInnes:

It would be useful to have the chronology, yes, if you could. In terms of the reserved matters and post-determination, have the N.G.O.'s present been involved in that process either through the Community Liaison Group that was established or through any other process since determination?

Mr. A. Legg:

The only reaction that we had was in response to the discharge permit application which then rang alarm bells for us and we then put a submission in via a solicitor here and to the water regulators who put our particular position across. So that was the first and only reaction that we had.

Mr. R. McInnes:

Which discharge consent was this?

Mr. A. Legg:

This was the application for a discharge permit from the groundworks, I believe.

Mr. R. McInnes:

Right, so these were for the affected mitigation works.

Mr. A. Legg:

Yes.

Mr. R. McInnes:

All right, okay.

The Deputy of St. John:

How many times in the last 12 months have you had concerns about the quality of water?

Mr. A. Legg:

I cannot count. Every day. We have had significant issues with that obviously. We are talking of faecal contamination here rather than anything else and the best example is a current one, one that happened on the 10th June. Can I give that paper across?

The Deputy of St. John:

By all means, yes.

Mr. A. Legg:

This is self-explanatory. Sorry, I have only got 4 copies of that and I will have to remember the numbers that are on that. On the 10th June there was a moderate rainfall, 15 millimetres of rainfall and 15 millimetres of rainfall is just on the margin of light to heavy. It is not extreme. It is just a normal sort of frontal thing. It is the sort of rainfall that happens between 12 and 15 times a year. We knew this was happening and we were desperate to try and find where the sewage pollution that has been affecting our beds has come from. Where my Green Island site, for instance, is category C where it needs to be re-laid in a clean area for 2 months before it is safe to eat. Now, the Green Island, that is a pretty horrendous situation. We phoned up Tim Du Feu and he said: "Well, if you want to take samples come and collect some sample bottles from us and we will arrange ..."

The Deputy of St. John:

Can I get this right? He is telling you to go and collect and take samples?

Mr. A. Legg:

Yes, he is telling us if we are worried it. We have this relationship that if we have a problem or a potential problem then we go and we take samples because they cannot always be on site. We carry sample bottles with us just in case because we are desperate to find what the problem is. So ...

The Deputy of St. John:

Can I stop you there. We have got a department with the responsibility for health, et cetera, and yet you have to do the sampling yourself when you have concerns. You just do not pick up the phone and ask him: "Has this been checked in the last 24 hours or over the last period of time?" You have to do this yourself?

Mr. A. Legg:

To be fair, we are possibly in a better reactive position than they are. They do do their own, and on this day they did do their own. They did do the sampling at 2.00 p.m. when the rain had just started. We did a set of samples at 4.00 p.m. when the rain had almost finished and the bottom line of it, as you can see on there, is that the spillage coming out from Bellozanne constituted 60 parts as opposed to one part on the rest of the east coast and that was effectively raw sewage. To be at that level with the surface water that was running through it, it was unprocessed. That is bad enough. That is saying: "Yes, we have got a definite spillage at a very light rainfall condition." It was 10 days before we got those particular results and it was Chris Le Masurier, the Chairman of the Association, who phoned up Tim Du Feu to get these results and we had only given them as numbers. We had deliberately not put the name of where these samples had come from. When the high one came out there was deathly silence at the other end of the telephone, as one might expect. Consequently, there was a set of communications between the water regulator, as I understand it, and T.T.S. There is a requirement in their discharge permit to inform if there has been a major spillage of sewage within 24 hours; 14 days later they applied a retrospective. I think that probably says it all.

The Deputy of St. John:

So, over the last, shall we say ... you have been in business 10 years, did you say?

Mr. A. Legg:

No, I have been 20 years now.

The Deputy of St. John:

Well, let us go back over 10 years. How regular are the spillages?

Mr. A. Legg:

It is difficult to say because whereas our oysters are sampled once a month and what we can only look at is an overall picture and that overall picture is a decline, slightly higher peaks and more progressive decline and loss of category A beds. We are now in a position where there is only one very small bed that is category A, the rest are all category B. So, to put the category C into perspective, one of the ones that is category C in the U.K. is the Wareham Channel in Poole Harbour which is right up at the very top of Poole Harbour where there is very little exchange of water and a fair amount of raw sewage going in, and Green Island is at the same level as that.

The Deputy of St. John:

Constable of St. Saviour?

The Connétable of St. Saviour:

Yes, just a simple question, can you give us some idea of the timescale against the rate of decline, as you understand it?

Mr. A. Legg:

Progressively over the last couple of years, I cannot be much more accurate than that but there has definitely been heavier blips occurring in the last couple of years and progressively more of them, particularly towards the end of each year when there tends to be a little bit more rainfall. There is another issue with this and there has

often been an explanation that this might be from animal sources, that it might come from bird sources, et cetera, which can be the case. We have had a number of oysters rejected recently because of norovirus and I am doing norovirus testing on some of my shellfish as well and we are seeing pretty high levels of norovirus in there. Norovirus is exclusively human sewage derived. It comes from nowhere else.

The Connétable of St. Saviour:

Can I just ask was there any testing for norovirus?

Mr. A. Legg:

No, we had to do it ourselves.

The Connétable of St. Saviour:

Yes, but we are talking about the last 10 years. When did you start testing?

Mr. A. Legg:

No, there is not. The norovirus has only been a relatively recent thing in the last 6 months and in 2 years' time all of the sampling is going to norovirus. Now the big problem we have got with that is that to get the norovirus to come out of the shellfish takes a very long period of time, so that if we have got a progressively declining water quality because of sewage contamination, if the peaks are significantly close enough together to give a peak of norovirus then it may well continuously stay at a level at which they cannot be sold. That is not true of E. coli which tends to be purged within a few days of the incidents.

Mr. R. McInnes:

Basically we are effectively moving on to what I shall refer to as the more chronic problems which might be underlining this. What you just explained there, Tony, is that this combination of acute events which, if you get enough acute events, this is your baseline from one status to another sort of chronic status. Obviously there is an issue which has been raised about E. coli from the Bellozanne outfall and that is an obvious culprit if you are trying to find a source of pollution getting into the environment around that coast.

Mr. A. Legg:

It is a continuously denied culprit until we have taken the samples.

Mr. R. McInnes:

Yes but if you are trying to identify possible potential sources that is an obvious potential source. Is that the main concern or are there other concerns as well which yourselves and S.O.S. (Save Our Shoreline) might want to raise as the sort of chronic sources of pollution, be they sort of low frequency high magnitude acute events or whether they are just much more insidious events?

Mr. A. Legg:

The one that would worry me most is the one regarding the settlement of post-larval ormers. Post-larval ormers require a fairly subtle soup of chemicals to be able to identify where they need to settle out and if one is putting some heavy metal complicated chemicals in there as well then there is a very good chance it is going to

disrupt that process. So what is already a fairly strained population may well end up having an extra knock on it that could well be a terminal one.

Mr. R. McInnes:

What would be the source of the heavy metals?

Mr. A. Legg:

Well, the source would have been a permitted discharge as the application was being put forward for.

Mr. R. McInnes:

From an S.O.S. point of view?

Mrs. L. Luke:

The leaching of the heavy metals mainly from the whole of the reclamation site it appears. If you take the Castle Quays and the incinerator pit, which were both dug out at the same time, you can see the voids that are going through. Then the Castle Quay site, there has been a complete mix of bottom ash, fly ash and there was no protection from the controlled waters around. As we have seen, the tide goes in and out and through the whole structure so whatever is in there obviously is going out slowly in different amounts. My concern would be, apart from the obvious of what is happening, is there a choice of testing sites on what they are testing? They are choosing 2 points ... well 4 if we take the whole south coast in and they have got 2 points, one either side of the La Collette reclamation site but fairly close to the source. Then they have got the 2 extremities, up at Corbière and down at Gorey and plus what they are testing is the limpets and the seaweed. So, one, they are up on the rocks, the seaweed either floats or goes with the tide, does it not really, and that is not telling us what is on the bottom because as heavy metals will be coming out some will obviously be dissolving into the water but, however, a lot will settle down and that is where they will go into the sediment. As with most sources of pollution you are not going to get their concentrations right in front of it. We are going to get it maybe 200 metres out and they are not taking that into consideration at all. There is no sediment testing. It is just not basically good enough really.

Mr. A. Legg:

The choice of animal is, in my opinion, wrong as well.

Mrs. L. Luke:

It is wrong as well. It should be bottom feeders such as oysters or mussels.

Mr. A. Legg:

Yes, or they are using *crepidula* as supposedly the filter-feeder, this is a slipper limpet and it is not ...

Mr. R. McInnes:

It is interesting that that was not used in Tim Du Feu's report, though.

The Deputy of St. Mary:

Yes, they just choose one.

Mrs. L. Luke:

There are 2 types. There is the slipper limpet and there is the ordinary limpet.

Mr. R. McInnes:

They used the one that was the non-filter-feeder in Tim Du Feu's report. It says that you should use the filter-feeder then it chooses not to use the filter-feeder, uses the common limpet rather than the slipper limpet.

Mrs. L. Luke:

Yes, you have got to question why that has been chosen.

Mr. A. Legg:

But the obvious one, from our point of view, is the oyster. It concentrates zinc at very high levels. Zinc and cadmium are very similar elements and if it is present in the environment it would bio-accumulate and it has not been tested at all.

The Deputy of St. Mary:

It just feels odd to be asking these sorts of questions but if I was a regulator I would test the food so why would they not do that? Mullet, for instance, comes to mind, it gobbles about, does it not, at the bottom? I am not very good on my marine biology but ...

Mr. A. Legg:

I do not think you should aim that question at us.

The Deputy of St. Mary:

Fair enough, yes. On this table, can you just explain like the second column in relation to the first. If you have Le Hocq going from 3,818 ...

Mr. A. Legg:

These are sets of outfalls around the east coast but through to Bellozanne. They, at times of rainfall, discharge water through the ordinary surface water drains although there is some element of connection to the sewage system and we are suspicious that at times they are used to discharge. We have occasionally had evidence of that. They are there specifically, if there is a major storm event, then it is quite understandable that you have to discharge. You cannot have sewage coming up out of peoples' toilets and flooding hundreds of houses so it has to be purged somewhere. So, we are not talking about that sort of situation, we are talking of much more routine ones. The figures that you have got there are the amount of faecal coliforms per 100 millilitres. Some of the figures I had were E. coli as well, which were fairly close to those figures but all of them were given to us as faecal coliforms so I put all of them as faecal coliforms in the sets of tables.

The Deputy of St. Mary:

So these are testing the actual outfalls. I understand, okay.

Mr. A. Legg:

This is testing the actual outfalls and it is 100 millilitres measurement and the amount of faecal coliforms that you have in that particular sample. If it is raw sewage then it is normally 10 to the seventh so one with 8 noughts after it. But a very big number.

The 590,000 there is what one would expect from just going through the system and being diluted, not processed at all. Certainly not tertiary processed and gone through an effective U.V. (ultra-violet) system. We also understand that when it does rain like that they do tend to put all the components of the sewage through the U.V. which the water is going to be very turbid at that time, and it is going to have an effect on the U.V. system. When we asked: "Do you sample at the end of the Bellozanne outfall to monitor what the levels are" which is a fairly obvious thing to do, the response that we had from Duncan Berry, was: "We know the specifications of the system and we know it is working to specification" and that was it.

The Deputy of St. Mary:

There is no figure for the Bellozanne outfall at 2.00 p.m.?

Mr. A. Legg:

No, Water Resources did not sample it.

The Deputy of St. Mary:

But they do sample the other ones.

Mr. A. Legg:

Yes.

The Deputy of St. Mary:

And they sample before or as it starts to rain?

Mr. A. Legg:

The tide was low at that time so it was accessible.

The Deputy of St. John:

Are you notified when the Cavern ...?

Mr. A. Legg:

We are supposed to be within 24 hours.

The Deputy of St. John:

Does that happen?

Mr. A. Legg:

It is starting to happen now. But, yes, we have had 2 notifications to the best of my knowledge that that has occurred.

The Deputy of St. John:

Given the Cavern has been in place for 6, 7, 8 years, there is a regular ... every time we have a second flash flood it will overflow.

Mr. A. Legg:

The Cavern, as I understand it, it was designed to cope with everything except a one in 10 year flood and apparently discharged 6 times last year or 8 times last year, of which we were informed a couple of times. I believe Water Resources were informed

but it did not always come back to us. We are trying to get a management system in place now so that all of this does work and we do get this information.

The Deputy of St. John:

Can you explain how they inform you please?

Mr. A. Legg:

It is normally a matter of Tim Du Feu phoning up somebody like Chris Le Masurier, who has got all of our telephone numbers to hand. If he cannot get hold of Chris then he would phone me and I would do the same. So it is a filter down process.

The Deputy of St. John:

So it is done by telephone?

Mr. A. Legg:

Yes.

The Deputy of St. John:

So there is no formal document, i.e. a fax or something like this?

Mr. A. Legg:

We tend to get it ... 24 hours is the time that T.T.S. would normally inform ... are obliged to inform the regulator, or 14 days as it has been in this particular case, and so there would always be a 2 day gap or so, which is not a great thing, particularly at Christmas when you are shipping 100, 150 tonnes of oysters and you do not know that there has been a discharge. You can guess, obviously we do monitor the rainfalls, we do look at where our microbial pollution is likely to be coming from, so we have to be proactive and reactive to it. But it is only just starting to become a mechanism.

The Deputy of St. John:

Out of interest, from, shall we say a flash flood happening an hour before high water, to it reaching your beds, if the Cavern is discharging out to sea, how long would that take?

Mr. A. Legg:

It depends on the direction of the tide obviously. I think the easiest way, if you have got Google Earth, look at St. Aubin's Bay on Google Earth because that is taken at one hour 30 minutes before high water and you can see a very distinct column of sewage, treated sewage no doubt, coming out of the Bellozanne outfall. It stays as a narrow duct and then starts to peter out towards the end of Elizabeth Castle breakwater. It is all tracking as a solid lump down towards that point, so obviously what then happens at the end of Elizabeth Castle breakwater it is then ducted straight down the Sambue gutter and then straight through, which is why we know that the outfalls on the east coast are probably not the problem because the water moves in a different direction in relation to them, so the horizontal motion and the L-shaped motion around the coast is the way the primary Bellozanne would flow and everything else would move up and down the coast.

The Deputy of St. John:

I was referring actually to the outfall from the Cavern, which is this side of the breakwater, not at Bellozanne.

Mr. A. Legg:

That one we are less certain of. It probably does exactly the same thing, it would track down pass the Dog's Nest and up the Sambue gutter. It does not show on a nice sunny day on Google Earth at the moment. We did have a conversation with T.T.S. about this and their first suggestion was: "Well, the currents are so strong it is going to dissipate everything, why are you worried about this?" Of course the answer is it does not work that way.

Mr. A. Syvret:

While we are on the subject of the Bellozanne outfall, it is worth mentioning that the town culvert, which is where the Cavern empties, and also the Bellozanne outfall - if what Tony is saying is true, and I have no reason to doubt it all, I have seen the same thing myself - the majority of that discharge finds its way between Elizabeth Castle and the town harbour, and that is straight through the storage area for the majority of the Island's crustacean fishery, and the Island has really only a crustacean fishery. Everything else is very small, as you are aware. It is also worth mentioning that the discharge that we were discussing earlier on, not the effluent discharge from the Energy from Waste plant when it is installed, but the discharge of the contaminated water from the groundworks, that is now academic, it has been wiped. It has been destroyed, shall we say. But that material is now going out of the Bellozanne outfall so the heavy metals we were concerned about, as far as the discharge permit at La Collette is concerned, they found a way around discharging into the Ramsar site and they are now discharging into the Bay here, which is adjacent to the Ramsar site.

The Deputy of St. Mary:

They are tankering it up to Bellozanne.

Mr. A. Syvret:

No doubt the plume is probably ...

Mr. A. Legg:

The processing simply would have no effect at all on the heavy metals. They would just be going straight through.

Mr. A. Syvret:

Just coming back to echo what has been said as far as the ash is concerned, that is the real nub of the issue. It is the long term potential pathway for what is, in some places, loose dumped ash within permeable landfill sites and whether it is an issue right now ... I mean we may go out and do a comprehensive monitoring exercise and find there is no problem but it will be a problem in future generations. It cannot fail to be so with sea level rising.

Mr. R. McInnes:

One of the things that, and I do not know whether this was something that was picked up by the ... or has ever been picked up by the Ramsar Steering Group, or has been picked up subsequently. If you can indulge me for a minute: in terms of the Ramsar process, Ramsar work on a 3-year cycle. That every 3 years there is a meeting of the

contracting parties called the Co-op, and usually 6 months prior to that national governments have to produce their report, which is basically a state of play of all Ramsar sites under their jurisdiction. Now, Defra who co-ordinate that on behalf of the U.K. submitted their report last year, obviously the southeast coast site in Jersey did not appear on it, there were no issues. From what I am hearing there seems to be some documented evidence that you can say - and we have got some good clear documented evidence - there have big impacts on the Ramsar site. There is some observational data that implies there could be, there is a source and there is a potential pathway, no direct effect has necessarily been conclusively drawn but there is good inference there. I think I already know the answer but I will ask the question, during that review process that should have happened last year when States of Jersey would have been informing Defra on the status of the Ramsar sites over here, was any of this information either passed through to the States of Jersey or was it, in your experience of the Ramsar Steering Group, ever something that was even considered in terms of how they feed into that reporting process?

Mr. A. Syvret:

No, it is a clean bill of health, press on, to be honest with you. That is how I would view that, without any doubt at all. I am familiar with the Montreux record and that is something that as an N.G.O. we have discussed because the Montreux record is a list of Ramsar sites that are considered threatened or damaged. You can come off the list, you can come on the list, but an N.G.O. has the right to ask for a site to be listed but it is up to a government to list it and to accept it, that is my understanding.

Mr. R. McInnes:

Anyone can, an N.G.O. an individual, a government agency, can approach the secretariat and say there is a site which is either impacted or under a threat of an impact. What would normally happen is the secretariat would ask the national government to pay for a Ramsar advisory mission, who would then visit the site, assess the situation, their recommendation would be whatever course of action ... normally what happens is they will put in a whole range of actions which will obviate the need for going on the Montreux record because the government, if they act in due diligence and due care for the environment, should be able to put things in place. If the government either choose not to or do not put in appropriate measures then the site can go on to the Montreux record. Again, sometimes that is seen as a positive because that means we have recognised it as a problem, we are putting the site on the record. We are now getting support from the Ramsar secretariat, it mobilises other resources through the Scientific and Technical Review Panel of Ramsar, and it can solve the problem.

Mr. A. Syvret:

It is in the hope of that that we are sat here.

Mr. R. McInnes:

There are some governments that do not like the idea as they see it as a slur on their national sort of identity and they will fight tooth and nail and not have it go on the Montreux record. The U.K. already has several sites on the Montreux record so there is a precedent there within the U.K.

Mrs. L. Luke:

I believe when the States were contacted they said that they had ... by Ramsar, I believe it was Ramsar because I am sure it is in my email, and they said they had done a full and thorough E.I.A. and there were no problems highlighted in it. Then I did not hear any more on that one. I do not know if it is the appropriate place to mention it. I went for a meeting with Mr. Peggie, it was a couple of months ago now, and I was just asking him if he thought their current monitoring programme was adequate, and obviously they said that it was. I said I did not think it was. I said: "Well, why can you not test the sediments? Why can you not test oysters? Why can you not do this?" His answer to me was: "Because there is no baseline data." So I said: "Well, if you do one study now then you will have a baseline." So I was a bit ... I just thought I would mention that because I thought it was an interesting reason for not doing any further testing and sticking with what they have got.

The Connétable of St. Peter:

That is different from what he told us this morning.

Mrs. L. Luke:

I have definitely got a record of that conversation.

The Deputy of St. John:

Could you let us have a copy of that record?

Mrs. L. Luke:

I am sure I could somehow.

Mr. R. McInnes:

Assuming that there are impacts to the Ramsar site that have been identified, what mitigation measures might you think would be most appropriate? One that you have mentioned is let us do some sediment sampling, understand the nature of the issue and then we can start putting in the appropriate mitigation. What other things do you think should be done?

Mrs. L. Luke:

There is a general attitude that we have done this job, we are right and we will not listen. That is how it is coming across to me at the moment.

Mr. R. McInnes:

"We" being the Department of Planning and Environment?

Mrs. L. Luke:

"We" being the department as a whole. It was like when I had a recent email conversation with William Peggie and when they have pulled out of the discharge permit because now they are doing ... they are putting them into tanks and then tankering it to the sewage works. I said: "Well, you know, stop moving the problem around because it is not dealing with the problem." I think I did put to him: "Stop looking for loopholes in the laws because it has now swapped law that it is governing" but they will not identify which bit of the law is covering this movement of the leachate. I just think they need to be open and have a full assessment of the problem and deal with it accordingly and properly.

Mr. A. Legg:

Again, the response that I had back from William Peggie on this was that they were no longer applying for the discharge permit and the problem was resolved. Of course the reality is that the problem has not been resolved, it is merely their problem of getting around the discharge permit, but that is the level of ... I will not say dishonesty, but it is not being open and frank in how things operate.

The Connétable of St. Peter:

Is that basically if there is no discharge permit therefore there is no discharge?

Mrs. L. Luke:

It is not happening.

Mr. A. Legg:

It is not a problem.

Mrs. L. Luke:

Yes, it is not happening.

Mr. A. Legg:

They are using an existing discharge permit, presumably the Bellozanne one, to achieve the task and therefore the task is being achieved.

The Deputy of St. Mary:

My understanding is they tanker quite a lot of it up to Bellozanne and then the rest goes: "Oops, over the top."

Mr. A. Legg:

Back into the ground where it once came from and of course it is, by that time, mobilised and entirely different to how it was in the recent past.

The Deputy of St. John:

Any other questions?

The Connétable of St. Saviour:

Can I just take you back to the discharges into St. Aubin's Bay? You said you could look on Google Earth, an hour and a half before high water ...

Mr. A. Legg:

That was when the photograph was taken. I have worked that one back from where the sun is and where the tide is and what time of year it was.

The Connétable of St. Saviour:

Can I check with you because you are suggesting that it is coming from Bellozanne and then going back down the small roads?

Mr. A. Legg:

Yes, it is.

The Connétable of St. Saviour:

I am intrigued because that is going against the tidal flow.

Mr. A. Legg:

Not one hour 30 before high.

The Connétable of St. Saviour:

Yes, it is. The whole time the causeway is covered the tide is going anticlockwise around the Bay. I know that from 40 years of racing there. It will not go back over the causeway at that time so if you are getting pollution then it must be going around the Bay.

Mr. A. Legg:

It obviously will change, it can do a back loop on that but, believe me, look at the photograph and work it out. I know exactly what you are talking about. Yes, I have raced in the Bay as well and know what the currents feel like and when you are swimming against them there as well. That is where it is moving. It may well be a surface effect that it is coming up and then just on the surface, or it might be a depth effect. I cannot tell where the column is on there, but if you look at the column it is very distinctive flowing in a south southeast direction.

The Deputy of St. John:

So we could have a contra tide running in that particular area because the closer in shore you get you can have 2 tides running in opposite directions.

The Connétable of St. Saviour:

But not across the causeway.

The Deputy of St. John:

Well, not across the causeway.

The Connétable of St. Saviour:

The point I am saying is that it may well ...

Mr. A. Legg:

Sorry, it is not going to the causeway. No, it is going south to east from the outfall and it is staying on the west side of Elizabeth Castle.

The Connétable of St. Saviour:

Then going down the end of the Castle and then going down through the gutters from there?

Mr. A. Legg:

Yes, at the Buttes you just cannot ... it breaks up too much.

The Connétable of St. Saviour:

That I can understand.

Mr. R. McInnes:

I think that discussion almost encapsulates the nature of the issue, that we do not have documented evidence to understand ... we know that there is a potential source of

pollution, that has been highlighted. We have figures on E. coli that are pretty frightening. We know there is a vector in terms of the tidal currents but we do not know exactly the pathway and the route it is taking and then we do not know the impact on the receptor definitively. So I think that identifies in a very, very simple way ...

Mr. A. Syvret:

Can I just interject very briefly? I think we may find that Transport and Technical Services know a lot more than they are owning up to. I think St. Aubin's Bay is a lot better understood than the data that they have released. I supervised a postgraduate student for 3 years while I was coastal officer and for 3 years she tried to get access to computer modelling information as far as the circulation at St. Aubin's Bay is concerned, and Transport and Technical Services would not release that information. They did a lot of modelling work when they introduced the outfall and the ultra violet treatment plant and I am fairly certain that a lot of material has never seen the light of day.

The Connétable of St. Saviour:

Can I just ask; were you aware of any tidal monitoring that was done before they built the new marina?

Mr. A. Syvret:

Yes, H.R. Wallingford did a lot of that work. There is a very, very comprehensive data set on St. Aubin's Bay. I do not think there is much we do not know about the circulation.

The Deputy of St. Mary:

On dilution, quite often ... well, I think it is quite often in the E.I.S. we hear the phrase that because of the dilution factor, because of the tidal range, it is not a problem. In general it is not a problem, and yet you say, Mr. Legg, dilution, it does not work that way. Could you expand on that because that is ...

Mr. A. Legg:

The pollutant tends to end up as a discrete pocket and that discrete pocket then gets moved. It gets slowly dissipated but it is not a matter of it suddenly becomes dissipated. The chemistry and physicality of turbulence, et cetera, it just stays as a lump and so it is units of lump. It is cellular structures that slowly then break down into smaller cellular structures and then eventually over the fullness of time or with the heavy storm action, or whatever, will then break up.

The Deputy of St. Mary:

Would that be different in a situation like St. Ouen's compared to a situation like the southeast coast?

Mr. A. Legg:

Probably, yes, because most of the wave action would tend to be straight onshore at St. Ouen's and you have got all sorts of complex movements backwards and forwards whereas this tends to be a large body of water that builds up and moves and then comes back again. It is more like having a boat or if you imagine putting a barrel of contaminated material in, the barrel will then move and then come back again to that

particular position. You do not get millions of little barrels suddenly appearing all over the place.

Mr. A. Syvret:

There is data that will prove on the books of Planning and Environment that the coastal compartment between the swimming pool at Havre des Pas and La Collette is getting muddier. The material is getting finer and over time increasing deposition is taking place there. That is a result of creating the breakwater at the land reclamation site, so I would say that if there was a gradient, shall we say, of likelihood of material getting locked up then it is more likely, as time goes by.

Mr. A. Legg:

I would also think at some time in the near future, if it has not already happened, that we are going to see mussel rafting there, which has never happened on the Island before. I do not know if that has been seen yet.

Mr. A. Syvret:

I have not seen it.

The Deputy of St. Mary:

Mussel ground?

Mr. A. Legg:

Mussel rafting where the mussels start to settle. Once they start to settle then they stick together in very large clumps and it then aggregates from that, and that will change the biota there quite significantly.

Mr. R. McInnes:

Is that not indicative of lower energy environment?

Mr. A. Legg:

Yes, and that is why that is now a low energy environment.

Mr. R. McInnes:

If you have got a low energy environment you will have lower dispersion and lower dilution.

Mr. A. Syvret:

Mussel rafting is one of the great mysteries here, is it not, why we do not have it? We just do not have wild crops of mussels in Jersey for some reason.

Mr. R. McInnes:

Can I just sort of recap. I am trying to just get things straight. From what I am hearing, and please I am happy to be corrected, it seems that in terms of potential, and I am talking about pollution at the moment, on primarily the Ramsar site, the sources that seem to be coming up are discharges coming up from the Bellozanne outfall, potential risks from the reclamation site and including the ash pits.

Mr. A. Syvret:

The 2 reclamation sites. There is one here and one to the east.

Mr. R. McInnes:

Then there are some other outfalls as well which discharge, and then there is aerial deposition as well. Have I missed any?

The Deputy of St. Mary:

Leaching?

Mr. R. McInnes:

Well, leaching would be from the reclamation areas or the ash pits.

Mrs. L. Luke:

And the asbestos that is in the land as well.

Mr. R. McInnes:

Or what else is in there that we do not know about it.

The Deputy of St. Mary:

I have a couple more: "continuously deny", you say that T.T.S., that part of the issue around this, and you mention that they have the models but we do not know and you, Mr. Legg, said that, I think it was you, said T.T.S. deny that they are the culprit in this with the Bellozanne.

Mr. A. Legg:

Yes.

The Deputy of St. Mary:

Is there not a way of determining whether it is human contamination or animal through D.N.A. (Deoxyribonucleic acid); is that true?

Mr. A. Legg:

Yes, there is. When it has been sampled it has been uncertain or multi-factorial sources. The most definitive one is the presence of norovirus and that is only recently come as ... it is only through us sampling that that has shown up. When Public Health have done it, it has been of possibly ... definitely some component is human but there may well be other components that are avian or cattle, for instance.

The Deputy of St. Mary:

It is quite important to establish where it is coming from and I just wonder how often does that happen?

Mr. A. Legg:

The sampling that I am talking about there specifically was the Grouville Bay sampling when there was an issue with the seaweed. That was determined ... it is a more expensive and more complicated test to see the source of the E. coli and that was the one that came up as multi-factorial, as one would have expected because the birds were feeding on there, there are dogs that are on the beach and there are sewage outfalls or surface water outfalls that would have had sewage in and so that came up, not unexpectedly. As far as the oysters being tested for; is this human E. coli? No, that is not tested for. But the presence of the norovirus is definitive.

The Connétable of St. Peter:

In terms of agricultural run-off, does that any way of getting down into the Ramsar site?

Mr. A. Legg:

That has been very, very carefully looked at and it is a very rare occurrence and there are a lot of management procedures that agriculture go through. There are also very few cattle farmers in that catchment area.

The Connétable of St. Peter:

That is what I thought.

Mr. A. Legg:

We have excluded that one. There has been a very comprehensive process of excluding things and only when you have excluded all possible, you are left with the improbable, and we have now found what is now a certainty.

The Deputy of St. John:

Any other questions? If not, I would like to thank you for your time and we will have a 5 minute break before we start on Mr. Le Brocq and Mr. Shaw.