

Jersey's water supplies: More research needed

THE long debate over the nature and state of Jersey's water supplies took another step nearer its conclusion early this week, when the two main groups involved attempted to reconcile their views.

On the one side is the British Geological Survey team, who have produced three reports on the subject for Public Services and will be issuing a fourth in a matter of weeks.

On the other is the team of local water diviners, who have tried to point out inconsistencies

BY RICHARD PEDLEY

they claim are in these BGS reports. They claim that instead of water supplies coming purely from rainwater, the Island is also fed by underground streams from France.

The outcome of these discussions may have a marked effect on Island life as they may determine whether or not boreholes will be metered.

Farmers are especially worried about this as they rely on boreholes to water their fields.

The meeting was attended by representatives of BGS, the water diviners, the Agriculture and Fisheries Committee, the president and vice-president of the Public Services Committee, members of the Jersey Farmers Union and members of the geological consultant group.

While BGS have rejected the diviners' claims in the past, there may now be a willingness for them to re-examine their findings in the light of the diviners' information, according to Public Services Committee president Deputy Derek Carter.

The disputed fact in question is whether there are significant

water deposits below 25m. BGS say there is not, the water diviners say that it took them one hour to find 50 boreholes operating below 40m, and that some only struck water when they reached a depth of 90m.

Deputy Carter said: 'We shall be asking these people if we can go out to these bores to get some information.'

'If they find anything different then they will have to amend their reports.'

These water deposits may well just be rainwater that has soaked down through the soil over the years, but George Langlois, one of the diviners, said he found it hard to believe that the Islands estimated 5,000 boreholes, some of which he says can pump out water at 3,000 to 4,000 gallons per hour, were being fed just by rainwater.

Deputy Carter said: 'I don't think that there was any real reconciliation at the meeting, but one point of agreement is that more research is necessary.'

Senator Rothwell, who has admitted that it was difficult to get everyone to sit down and discuss this issue, said: 'They did say that their next report would be rather mellowed compared to the last ones.'

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BY JACKIE HONE

PUBLIC Services have written to water diviner George Langlois asking him for information about the sources of deep, pure underground water in the Island which the diviners claim exist but which the department says do not.

The letter, from chief water engineer Roger Culverwell, says that the department would appreciate information about the yield and quality of any deep-water sources in the Island.

Mr Langlois said that he had been very surprised to receive the letter, as the department had for many years completely dismissed the views and claims of the water diviners and engineers group of which Mr Langlois is a member.

But Mr Culverwell said that writing the letter did not mean that the department had suddenly begun to believe the diviners.

'They are always claiming that there are plentiful sources of deep water, although we know of none,' Mr Culverwell said. 'However, if they are so sure, we would be very pleased if they would show us where they are; then we can monitor them and see if it is true.'

Meanwhile, the British Geological Survey (BGS) has said that recent statements in the press by the water diviners 'totally misrepresented the recent findings by experts from the BGS'.

When the fourth annual report of the BGS on the state of the Island's water supply was published last month, they said that there was 'little to see in terms of over-exploitation of the resource'.

The diviners said that this vindicated what they had said all along. However, the BGS now say that the quote was taken out of context and that they believe — as they have said for years — that Jersey's groundwater is reaching a point at which it cannot be sustained.

The BGS's principal hydrogeologist, Nick Robins, said that this conclusion had been reached through a calculation which showed that the amount of groundwater being abstracted was the same as that going into the ground, with a margin of error of 20 per cent either way.

But water diviner Gerard Baudains claims that the diviners and engineers group have proof that the watertable is not overexploited. 'We have ample evidence that these water reports are fundamentally flawed,' he said.

Public Services ask for divine intervention

'Go on, then,' diviners are told.

'Show us where the water is . . .'

Water, water everywhere

Diviner GEORGE
LANGLOIS gives
his views on an
emotive subject

GIVEN the considerable amount of publicity given in recent times to the Island's water situation, it is perhaps time for the alternative view — that of someone with years of experience in divining — to be put to the public.

There are a number of underground streams in the Island, running in general from east to west. Divining, for which I have never charged a fee as I believe it to be a gift from God, needs to be highly accurate if it is to achieve its objective.

There is a great deal of water under this Island, contrary to what many would have the public believe, and I am not talking about the 'puddle' (I can think of no better way of describing it) which lies not far below the surface.

That 'puddle' is static water and the indications I receive when divining are from running water in the underground streams. Experience brings with it the ability to give accurate estimates of the depth at which pure water in abundant supply can be had. I recall telling a householder that water would be found at 100 feet. The well-borer telephoned me to say that at 95 feet the bore was dry, with only granite powder surfacing. Another five feet of drilling produced plenty of water.

The land near St Ouen's Bay has an abundant supply, and a nine-inch bore sunk to between 250 and 300 feet directly into the stream could yield at least another half a million gallons a day. One restaurant at the western end of the bay has a bore at 240 feet yielding excellent water.

Between Beaumont and Bel Royal there is another of these streams, about 300 feet down, and this could be used when necessary to supplement exist-

ing supplies. Similarly there is one under the town of St Helier, but because of severe pollution this cannot be used unless the bore is completely lined and sunk to a depth of at least three to four hundred feet.

Another is at Georgetown, in the Fountain Lane area, but many living in that district have created problems for themselves by extracting from the 'puddle' closer to the surface, instead of drilling down to between 150 to 200 feet, where the water is superb and so abundant that unless the bore is properly capped you cannot stop it from flowing over the ground.

The fountain on Grouville Hill is polluted, and there is no wonder. Its stone allows seepage of every sort of waste and chemical to enter the supply, whereas if a four-inch bore was sunk in the immediate vicinity to gain a considerable depth, and lined to protect it from pollution, this water also could be used.

All over Brittany and Normandy, small communities are clubbing together, with financial assistance from local and national government, to sink bores, often to a depth of 1,000 metres, to provide their water supplies.

They don't need reservoirs costing £20 million, nor do they flood valleys. They simply pump to water towers and gravity feed supplies to consumers.

Each parish in the Island offers a different situation; in St Martin it is volcanic rock, and the streams fill huge underground caverns — so big that the drill heads often fall into them.

Not getting the job done properly is costly. A grower with glasshouses in St John had seen his own bore run dry, and pumped out water from the 'puddle' until that too was exhausted. I found water in abun-

dance at 140 feet down, and only 50 feet away from the 'puddle' bore.

He fared better than a clergyman from the west, who, believing that divining is evil, has a lot of dry boreholes and not much else for his trouble and money.

Those who believe that you can drill until you find water are foolish. There are areas of the Island in which underground streams do not run.

The so-called experts should on occasions be prepared to listen to those who, while they may not possess written qualifications, certainly have years of experience on which to draw.

I estimate that half the needs of the Waterworks Company could be met from bores sunk into underground streams.

Those who say that the water supplies of Jersey and France are not connected forget that the land once was. A large underground stream near Carteret also goes under the Ecréhous — the monastery there had a well — and leads to somewhere near Gorey.

Similarly, the Minquiers, near Maître Ile, has a spring which uncovers at half tide, with good drinking water flowing for 24 hours a day.

We have no real shortage of water in Jersey, the 'puddle' as I call it, or the aquifer as the experts call it, being constantly kept to its normal level, even in dry years, by the subterranean streams where the pressure points come near the surface and leak into the aquifer. As the second report stated there is little difference in the levels during dry or wet summers.

I have found water in each of

the Channel Islands and France and only once has a bore failed (and then not until five years had elapsed) to deliver water to its full potential.

If the States are to control boreholes, and I do not think they should, then only those which go deep enough to draw from underground streams should be permitted.

As well as seeking professional advice from bodies like the British Geological Survey, who I believe have fallen into the trap of looking merely at the 'puddle' near the surface and not at the ample supplies which

exist at greater depths, the States, and in particular the IDC if they are given the responsibility, should inquire also of those, like me, who have spent much of their lives finding water in extremely large quantities.

Taking an in-depth look at the water supply

IN AN attempt to convince people that the water supply in Jersey is far greater than estimated officially, George Langlois — the water diviner who last week cast doubts on the States decision to allow a sewage cavern to be excavated under Fort Regent — commissioned an independent UK geologist to look at the British Geological Surveys.

It was these two surveys in 1991 and 1992 that concluded that there was a serious risk to Jersey's groundwater stocks from overuse and pollution.

But the UK geologist who looked into the reports, Stuart Sutton, said that these conclusions were unsupported by either chemical evidence or the limited water data available.

'I want to challenge the powers that be to prove us wrong,' said Mr Langlois. 'We have more water now than we've ever had.'

Report

In his report Mr Sutton said that previous surveys contained significant approximations which the geologists were aware of, but ignored.

'In spite of the uncertainty of the recharge estimate it is used as the sole basis for the statement that "the groundwater resources of the Island are being overpumped",' said Mr Sutton.

'The model results presented are of dubious reliability,' he continued. 'One of the input parameters, I would contend, is seriously in error.'

This supports Mr Langlois's theory that Jersey has significant underground water supplies that are trapped underneath a thick layer of granite and are largely unexploited.

'The deeper you go down the purer the water is,' he said, 'and so pollution is no longer a prob-

BY RICHARD PEDLEY

lem.' Several thousand boreholes in Jersey tap this pure water supply, he said, but it has not been taken into account by the surveys.

The 1991 report mentions deep water only in passing, concentrating almost entirely on the 'aquifer' on top of the Island's bedrock.

The report says that some variations in their samples are due to water upwelling from deep, oxygen-poor sources.

'They did not follow this up because it was not part of their remit,' said Mr Langlois.

'There are two levels of water in Jersey, the surface aquifer that the report dealt with and the lower one. Surface rainwater runs down from north to south, but there is another deep supply running from east to west.'

The lower water comes from underground streams that originate in France and that flow from east to west across the Island. Over the past five months Mr Langlois has plotted the course of these streams.

He claims that they date back to the pre-Roman times when some Channel Islands, including Jersey, were linked to France.

'I have a map dating 705 AD when Causey was connected to the mainland of France, and an underground stream still feeds Causey,' he said. 'I have traced underground streams from an area near Carteret through to St Martin and Grouville.'

Mr Langlois said that the best quality water comes from 100-130 metres under St Martin which, because of the natural filtration process of travelling through rock, is free of nitrates and 'other nasties'. He estimates that this source alone could supply up to three million gallons per week.

Although he is well read in hydrogeochemical and hydrogeological literature, Mr Langlois

believes that Public Services are not taking his suggestions seriously, preferring to rely entirely on the official surveys.

'I and my two colleagues met Agriculture and Fisheries at the Howard Davis Farm to discuss our findings with them, and Roger Culverwell from Public Services,' he said. 'He said that if we had water coming from France we would have a jet of water 30 foot in the air from pressure.'

Pressure

'I said that could happen with the pressure of water travelling through the ground from north to south as well, but it doesn't.'

His concern over the excavation of a tunnel and cavern underneath Fort Regent has also led him to give a report to Public Services to warn them of the potentially disastrous effect this would have on subterranean water courses.

The president of Public Services, Deputy John Le Gallais, has promised to consult Mr Langlois and States Members once they have looked at this report.

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Diviners urge Agriculture to shelve water report

WATER diviners will ask that the official report into Jersey's water reserves be declared null and void at a meeting with Department of Agriculture and Public Services representatives this afternoon.

By RICHARD PEDLEY

George Langlois, the diviner who has maintained that there are inaccuracies in the 1991 and 1992 British Geological Surveys, is hoping that Public Services will acknowledge that the reports tell only half the story.

An independent geologist from the UK has said that the data used by the BGS is of dubious reliability, and John Sharp, a consultant with Public Services, has said that he basically agrees with Mr Langlois' theories.

Senator John Rothwell, the president of the Agriculture and Fisheries Committee, has had several meetings with the water diviners and believes their opinions should not be dismissed.

'Water diviners have been around for hundreds of years and they do seem to do the job — they find water,' said the Senator. 'To ignore any advice they have to offer is foolhardy. But whenever we talk to Public Services without Dr Sharp there, they just rubbish the idea.'

According to Mr Langlois, Jersey's surface water is being seriously depleted as it says in the reports, but he adds that there are streams running deep underground. He believes that these could supply the solution to any water shortage.

'The BGS survey is full of inconsistencies,' he said, 'but they were only told to look at the surface water.'

The reports refer to upwellings of fresh water but do not draw any conclusions from these findings.

John Mulready, the Chief Officer of Public Services, has said that they still stand by the conclusions of the reports.

It will be a busy day for Mr Langlois because there is an additional meeting scheduled for 8pm with members of the Jersey Farmers Union to discuss the implications his findings have for the farming community.

Mr Langlois points out that because of the number of boreholes found on farms, the agriculture industry is already using a significant amount of water from below 40 metres.

Public Services officer blamed for stopping water meeting

Senator Rothwell angered over 'obstructive' actions

BY
RICHARD
PEDLEY

RECENT actions by the officers of Public Services have appeared to be deliberately obstructive, according to Senator John Rothwell.

The Senator has been particularly angered by the way a meeting arranged to take place on Thursday had to be cancelled at short notice following the alleged actions of a civil servant from Public Services.

The meeting, arranged by the Department of Agriculture and Fisheries, was to allow a consultant to Public Services, John Sharp, to discuss Jersey's subterranean water supply with Island water diviners.

The water diviners maintain that a report commissioned by Public Services fails to take account of water supplies that lie deep underground and should be withdrawn.

Mr Sharp, an internationally-known expert in this field, said at a previous meeting that he has no real objection to the theories of the water diviners.

'No point'

Public Services as a whole dismiss these theories out of hand.

However, Mr Sharp was unable to attend the meeting, and Senator Rothwell believes this is because he was told there was

'no point in going' by Roger Culverwell, an officer from Public Services.

'They Public Services are trying to worm their way out of it,' said the Senator. 'It appears as though they do not want us to meet with Mr Sharp; it seems this is because he is supportive of the theories put forward by the water diviners.'

Mr Culverwell denied that he had advised Mr Sharp not to attend and said he had no idea why the meeting did not go ahead.

But he did say that he thought there was little point in holding a meeting until the water diviners have some hard evidence.

'It does seem strange that another committee should want to discuss a report commissioned by Public Services,' he added.

Authority

Senator Derek Carter, who chaired a previous meeting and was due to attend Thursday's, said he was desperately disappointed at the cancellation.

He added that it had been arranged purely to allow Mr Sharp to discuss the matter further with the water diviners.

'John Sharp is an international authority and here he is on our doorstep, ignored,' he said. 'It seems that Public Services

are saying they will allow their expert to tell us what they choose.'

Senator Rothwell is also angry that Mr Culverwell has suggested to the Agriculture Department that a meeting at this level should be convened by his own department.

'I take grave exception to civil servants entering the political sphere,' he said.

'Is Mr Culverwell suggesting that I, as president of Agriculture, cannot convene a meeting?'

'We were hoping to benefit from Mr Sharp's knowledge, but were apparently prevented from doing so by a civil servant interfering,' he said.

Senator Rothwell is keen to discuss the matter because any

future legislation dealing with water supplies, specifically the metering of boreholes, will have a tremendous effect on the agriculture industry.

Senator Carter agrees wholeheartedly, saying that even if there is a possibility that large quantities of water can be obtained from deep underground, it should be thoroughly investigated.

Important

'If there is a major resource there then that seems to be a very important question to answer,' he said.

'Are we talking about an underground stream that flows or water that has just seeped down into fissures in the rock?'

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Agriculture to sink funds into water research

RICHARD PEDLEY

FINANCIAL support to test the theory that there are unaccounted-for subterranean water supplies beneath Jersey is to be given by the Agriculture and Fisheries Department.

Committee president Senator John Rothwell wants to set up a meeting of experts in Jersey to discuss the theory of Island water diviners that there are such supplies.

'There seems to be a suppression of information by Public Services,' he said. 'We are going to ask an independent expert, Dr Stuart Sutton, to come over.'

Mr Sutton has already criticised the British Geological Survey which was commissioned by Public Services on the Island's water supplies as being of dubious reliability. This report only refers to surface water, although it does make a passing reference to pure water welling up in some parts of the Island.

Support

The support was given during a meeting between water diviners, the chief officer of the department, Peter Bastion, and representatives of the Jersey Farmers' Union.

'I think it is a great breakthrough,' said George Langlois, one of the diviners who has consistently maintained that there are underground streams. 'Now we are being taken seriously, suddenly we can prove our theories.'

Mr Langlois has already had several meetings with Public Services and despite being given some support by one of their consultants, John Sharp, has not been able to make them reconsider their report.

He believes that the underground supplies lie deep beneath the Island and are quite separate

from the surface rainfall. Several thousand boreholes already draw water from depths of more than 40 metres.

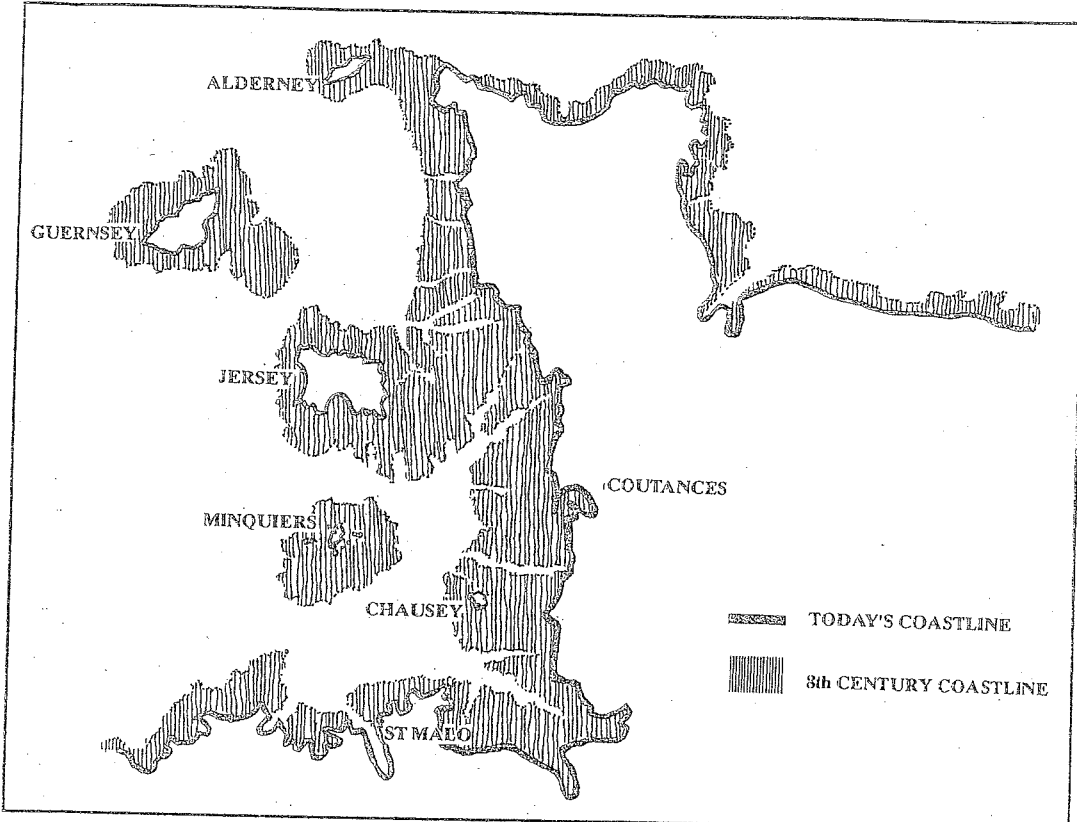
The JFU are eager to see whether there are underwater streams because of plans to meter all boreholes in the Island and effectively charge people for supplies they draw from their own land.

Nearly all farmers have boreholes on their land; they hope it can be proven that they do not

affect the surface water and would then be exempt from metering.

Steven Luce of the JFU water committee said that they were carrying out their own research into the situation, but that getting independent experts to give their opinion would strengthen their case immensely.

'We have gone a certain distance in our research, and we can't go much further without help,' he said.



Water diviner George Langlois believes that Jersey's previous connection to France — illustrated by this map showing the coasts as they were in the 8th century — can explain the origin of the underground streams

Underground streams: Scientists prepare for showdown

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TWO scientists — one representing Public Services and one from the Island's water diviners — hope to decide once and for all if there are underground streams beneath Jersey.

They are expected to meet early next month, and it is hoped that the showdown will resolve the controversy over the nature of Jersey's water supplies.

During the States debate on the Public Services plan to build a huge cavern underneath Fort Regent, it was suggested that these streams could present a problem if their presence was not anticipated. Public Services have promised to look into the matter and said at the time that they may have to move the access tunnel.

One of the authors of the British Geological Survey's investigation of Jersey's water supply, the report commissioned by Public Services, is to visit Jersey early in September. He will be meeting Stewart Sutton, the geologist who has pointed out alleged inaccuracies in his report.

Mr Sutton recently agreed to come to Jersey, and the Agriculture and Fisheries Committee are to pay the costs of this trip.

The British Geological Survey concluded that there were no underground supplies, but stated that there were several thousand boreholes pumping water out from great depths all over the Island. What remains to be determined is whether these supplies come from surface water which is seeping into rock fissures, or are from underground water courses.

George Langlois, the water diviner who has been pressing for such a meeting, said that he was looking forward to hearing the outcome.

'Now that we have a highly qualified scientist on our side, people are starting to take us seriously,' he said.

BY RICHARD PEDLEY

Senator 'dismayed' as water resources meeting is cancelled

AGRICULTURE and Fisheries president Senator John Rothwell has expressed 'dismay and concern' that a meeting on underground water resources scheduled to take place tomorrow has been cancelled at the last moment.

He said this morning that it was the second time this had happened in less than two weeks, and added that it was clear to him that attempts were being made to thwart his committee in obtaining more information before the proposed legislation on regulating boreholes and wells is debated by the States.

'We received a fax at the Department of Agriculture and Fisheries today from Stuart Sutton, who has prepared a report which is highly critical of the findings of the Royal Geological Survey, the body upon which Public Services has relied for much of its information,' said Senator Rothwell.

BY PAUL MURRAY

'Mr Sutton said that only yesterday afternoon he received a message from the RGS asking for a meeting to discuss the technical comments he made, but they preferred that this discussion should precede the more public discussion which was supposed to have taken place tomorrow.

'As a result, Mr Sutton said that because he saw little advantage in not responding to RGS's wishes, he saw no point in attending Thursday's meeting.'

Bureaucracy

Senator Rothwell said that the need to discuss technical matters was the same reason given by Public Services chief engineer Roger Culverwell when the meeting planned for the end of July was cancelled.

'As far as I am concerned, some of the people most affected by the proposed legis-

lation will be farmers and growers, and it would be wholly wrong for the States to introduce legislation and add another level of bureaucracy to the public sector, as well as the additional expense which that would entail, if it is not necessary,' he said.

The attempt by Agriculture and Fisheries to organise meetings of all interested parties followed representations by a number of the Island's water diviners, who questioned the conclusions reached by the Royal Geological Survey and asked Mr Sutton to give an independent but expert assessment of those conclusions.

He said in his own conclusion that the principal conclusion of the RGS reports — that the groundwater resources of Jersey are at serious risk of substantial depletion — was based on an erroneous estimation of recharge volumes and was untenable.

But he did add that there was a serious risk of declining water quality arising from human activity.

8-12-94

Diviners claim to be vindicated

THE recent British Geological Survey report has vindicated what the Island's water diviners have believed for years about Jersey's water supplies, says a spokesman.

And diviner George Langlois claims that there is a second, plentiful, deep, uncontaminated layer of water under the Island, which he says the BGS refuse to agree exists.

Mr Langlois said that diviners have maintained for years that the Island has an indefinite supply of quality groundwater, despite their views regularly being dismissed by the Island's authorities.

A water law has been pending for some time, and includes metering of boreholes to prevent over-exploitation of the resource.

However, the recent BGS report says that there is 'little to see in terms of over-exploitation', despite widespread contamination of the water supply with pesticides and herbicides.

This, Mr Langlois said, is what diviners have believed for years. They also believe that there is a deep layer of water, which is pressurised and pure, several hundred feet below the Island's surface.

The BGS report says that the average depth of boreholes in Jersey is 25 metres (82 feet), and that although boreholes have been drilled up to 84 metres (275 feet) below the surface, these only encounter 'a modest component of deeper groundwater circulation'.

Mr Langlois said that the BGS's views are based on theory, while the diviners' are based on fact.

'There are already boreholes 500 feet deep in places and the water is pure,' he said. 'The BGS should be replaced by somebody else, as they are wrong.'

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■ WATER: Diviners seek to prove source theory

Ecréhous bore hole planned

WATER diviners hope to sink a bore hole on the Ecréhous reef to prove their theory that a deep source of underground water exists under Jersey and stretches out towards France.

The Public Services Committee are sceptical about the diviners' claims, which contradict a British Geological Survey conclusion that the Island's groundwater is reaching a point at which it

BY DENA JEUNE

cannot be sustained.

Public Services recently challenged the group of diviners and engineers to provide evidence of the yield and quality of any deep water sources.

The committee have now agreed to ask the Territorial Army if they will transport the drilling rig out to the Ecréhous by a helicopter on loan to the unit for an exercise next month.

Drilling rig

The rig and compressor, weighing a total of almost four tons, belong to Louis de la Haye, who together with Gerard Baudains and George Langlois believes that there are plentiful sources of deep water under Jersey.

They hope to drill a 350 to 400-ft bore hole on Maitre Ile, the smaller of the two Ecréhous 'islands', and monitor how much water is pumped out. Mr Langlois believes that this could produce between 1,000 and 7,000 gallons per hour, depending on the pressure used.

The water diviners believe that there was an old monastery on Maitre Ile where the ruins of a monastery

24/1/95

21/9/95

Ecréhous borehole: Transport problem with drilling rig

It will not be possible to use a helicopter to transport a borehole drilling rig to the Ecréhous.

The weight of the equipment and fears of disturbing the colony of birds on the smaller of the two Ecréhous islands has ruled out this method of transport.

However, the Jersey Field Squadron, who were considering the drilling project as an exercise when they have the loan of a helicopter next month, will now try and secure the use of a military landing craft.

The Public Services Committee have asked the Territorial Army to help a group of water diviners and engineers transport their equipment out to the reef, where they hope to prove their theory that a band of deep underground water stretches out from the Island towards France.

Public Services are sceptical about the group's claims and have challenged them to provide evidence that the water exists.

