

**NWIFCA Technical, Science and Byelaw
Sub-Committee**

10th February 2015: 10:00 a.m.

**AGENDA
ITEM NO.
5**

**SCIENCE REPORT
22ND NOVEMBER 2014 – 23RD JANUARY 2015**

SURVEY AND FISHERIES WORK

Cockle and Mussel Fisheries in the NWIFCA District

Disappointingly there has been no sign of improvement in the cockle or mussel fisheries in the southern part of the District (Dee to Ribble Estuary). There is regular low level harvesting of size mussel in the Ribble Estuary. IFCOs regularly report to the Science Team on the state of the beds and to date there has been no sign of any significant spatfall of either species suggesting it is unlikely there will be any fisheries there in 2015.

Perch Scar seed mussel, Fleetwood

Having been opened to hand-gatherers for a week in October 2014 and subsequently as a small dredge fishery, a total of 110 tonnes was fished from Perch Scar seed mussel fishery. Operators informed the IFCA on 18th November they would not be returning that year. An inspection of the stock remaining was carried out by IFCOs on 22 January to provide data to be included in assessments for other potential mussel fisheries in the area. Remaining mussel on both Perch Scar and Black Scar beds are well sanded in. A considerable amount of stock has been lost to scouring and weather but a proportion of smaller mussel can still be found hard in to the mud, which is likely to persist through the winter.

Heysham Flat seed mussel

The authorisation issued to Byelaw 3 permit holders to gather undersize mussel from Heysham Flat was extended into December and January following requests from industry and inspections showing there was a fishable stock remaining. A closure over the Christmas period was included in the extension. However, the high winds during the past few weeks have taken their toll on the upper reaches of the skear, as is normal for this time of year, and the mussel in this area has been washed out. The authorisation was subsequently revoked on 12th January 2015.

The stock on the lower skears surprisingly appears to have persisted, despite assumptions that this would have been the first area to become scoured in view of the dense mud layers observed under the mussel in August. It has almost reached size (45mm). Officers are inspecting this on the large tides with a view to ensuring this will be available to Byelaw 3 permit holders as a size mussel fishery in due course. Officers continue to inform the local authority of the developments with this fishery. Members are reminded that this area can only be accessed on the largest spring tides due to its location at the lower reaches of the skear.

Foulney Mussels

Dealt with under a separate report.

Duddon Estuary Mussels

A low level of hand-gathering for size mussel is still on-going on the Duddon mussels. Due to high results of e-coli through the regular sampling, the hygiene classification was down-graded from a B to a C in December, which means that all mussel harvested must be relayed for 2 months in a suitable area followed by purification, or be subjected to EC approved heat treatment before going for human consumption.

Newbiggin Cockle Survey

On 2nd December 2014 a survey was carried out at Newbiggin in North Morecambe Bay after receiving reports from fishermen and IFCO Dixon of a presence of cockles in the area. An original grid of survey stations 500m apart was produced; however in order to fully cover the area in the time the tide allowed every other station was surveyed. The area chosen to survey was informed by information from previous visits of most suitable terrain for cockles.

An estimated area of 686 hectares was surveyed covering a total of 44 stations. Size cockle was present at 21 stations (48%) with a mean density of 3 per m² (maximum density of 18 size cockles per m²). Undersize cockle was present at 21 (48%) stations with a mean density of 5 per m² (maximum density of 32 undersize cockle per m²) (see Fig 1). Ages of cockles sampled ranged from 2014 recruits to those over 3 years old. Although not sampled, a significantly higher number of *Macoma balthica* (Baltic tellin) were found compared to recent surveys.

Oystercatchers and Knot were observed on the low tide lines and appeared to be feeding. However, on closer investigation there were no obvious signs of feeding on cockle although in one area crushed cockle shell was observed in the bird faeces.

The results of the survey show that, although cockle is present in the area, this is not of a great enough density to support a commercial fishery.

Newbiggin Cockle Survey 02-12-14

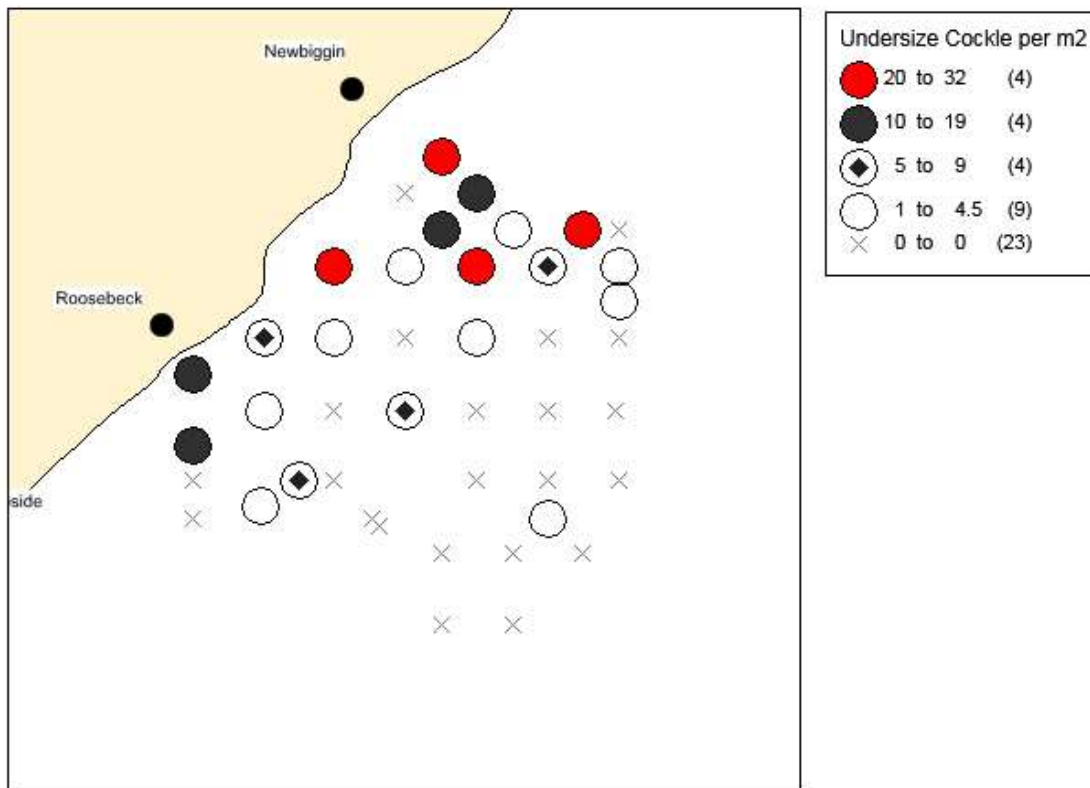
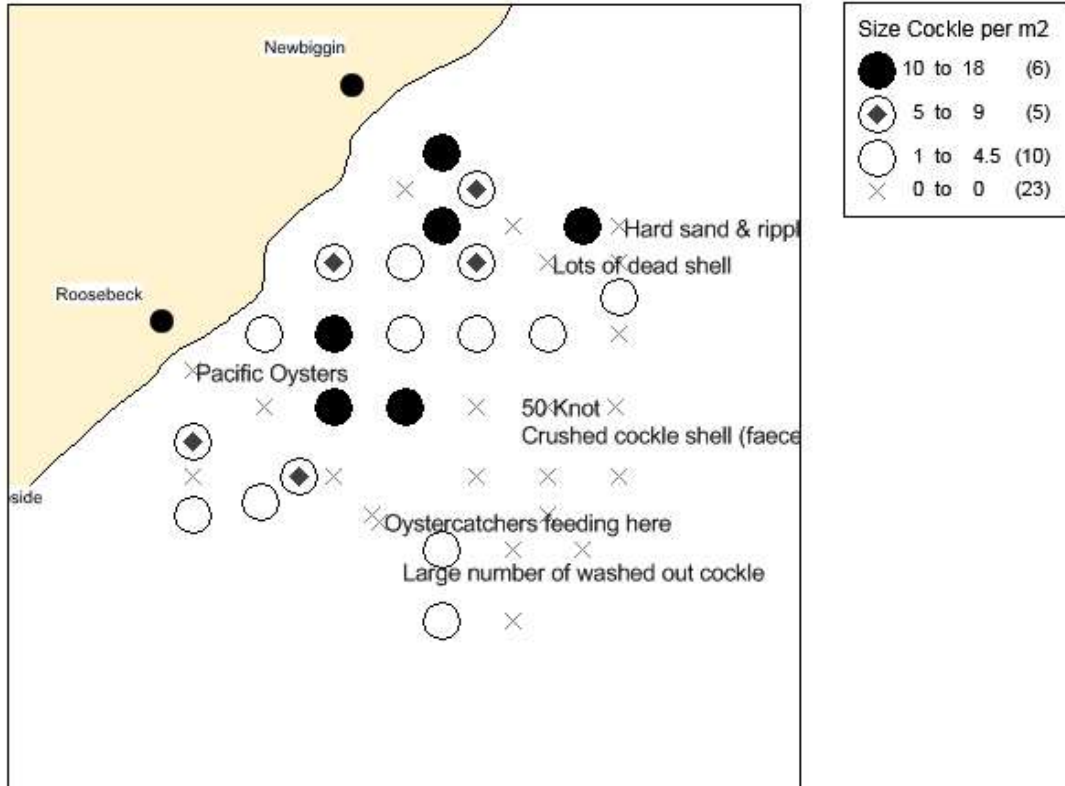


Fig. 1. Illustration of the results of Newbiggin cockle survey 02-12-14

Solway Firth

Officers have had two useful meetings with representatives from Marine Scotland, to discuss management of cockles in the Solway Firth. The first included a representative from Natural Resources Wales enforcement team and provided the opportunity to discuss the recent Cockle Management Study carried out on the Scottish side of the Solway and how their fishery may develop in the future. Discussions focused on enforcement across the Wales / North West England / Scotland cockle fisheries and allowed officers to share experiences and ideas. A second meeting was held in Edinburgh between NWIFCA Science Officers, Marine Scotland, Scottish Natural Heritage and Natural England and focused on the more scientific aspects of the fishery. The way in which surveys are undertaken and how this data is used to calculate TACs and produce Habitat Regulations Assessments was discussed. Marine Scotland input substantial resources in order to carry out in-depth surveys of all cockle beds in the intertidal areas on the Scottish coast of the Solway, results from which are fed into the bird model (Stillman et al. Bournemouth University) to provide the TAC. One run of the model at its lowest resolution is reported to cost around £8000.

NWIFCA data of resources on the English side are also used when they are available, although it was acknowledged that IFCA science resources are limited and directed to where the priorities lie, and that data required to fully inform these assessments and setting TACs may not have been collected.

The meetings were valuable and communication will continue to allow the cockle and mussel fishery resources within the Solway to be viewed more as a whole when carrying out future assessments and making management decisions, including those around enforcement particularly of the beds straddling the border in the centre of the estuary.

Further consideration has been given to the possibility of a suction dredge cockle fishery on the Middle Bank in the Solway Firth. As mentioned in previous reports, before a fishery can commence, further surveys must be undertaken to ascertain current stock levels, management measures decided upon and a Habitat Regulations Assessment undertaken. Officers have been in contact with other IFCA's and Marine Scotland to gather information about the impacts of suction dredging and management measures used in other, similar fisheries. It is intended to carry out further surveys of the bed in the spring.

MORECAMBE BAY HYBRID FISHERY ORDER

A special meeting was held on 16th December to decide upon the direction the NWIFCA takes over management of cockle and mussel fisheries in Morecambe Bay and the Duddon Estuary. The full record of this meeting is provided in the minutes. The following motion was voted on and approved and shall be taken to the next full Authority meeting for ratification:

'Future management of shellfisheries in Morecambe Bay and NW District be progressed under byelaw'.

Assessment of fishing activities in European Marine Sites

Feedback from Natural England for the "Light" TLSE assessments (where an activity is not currently occurring in an EMS) has been received and incorporated into these documents. Completed assessments have been re submitted to Natural England for their final advice.

Work has continued on a number of assessments. Appropriate Assessments for Lune Deep SAC (potting and netting) are at a final draft stage. Tests of Likely Significant Effect for netting, demersal longlines, shrimp push nets and beach seine/ring nets in the Solway Firth and Dee Estuary are

underway and await further activity data collection by officers. Work has also begun on assessing these activities in Morecambe Bay.

Officers continue to contribute to the process nationally through submission of quarterly progress reporting and monthly dial-in meetings. Officers also attended a national HRA workshop at the Defra offices in London. This workshop allowed the IFCAs, MMO, EA and Natural England to share their work so far and discuss future plans. One of the major conclusions of discussions was that, due to differing local characteristics of fisheries, IFCAs may produce assessments with differing formats which is acceptable as long the information contained within them is clear.

BIOSECURITY PLAN

Following input from Members and other organisations, the NWIFCA Biosecurity Plan has now been published and distributed. Authored by Ms Temple it is a comprehensive document outlining the current situation regarding Invasive Non-Native Species (INNS) and Shellfish Disease in the NWIFCA District, future risks, and best practice procedures recommended for use by all stakeholders and Officers to minimise those risks. It is being widely distributed, posters have been put up in the district and it has been published on the website. It is a five year plan and the aim is to keep it up to date with amendments as and when necessary. Ms Temple will also develop a method for disseminating the good practice 'Check, Clean, Dry' and INNS identification sheets to our stakeholders.

NORTH WEST COAST CONNECTIONS - NATIONAL GRID PROPOSAL FOR A TUNNEL UNDER MORECAMBE BAY

A further meeting was held of the Stakeholder Reference Group to discuss the next stages following the 12 week public consultation over the preferred route options last year. The meeting consisted of an array of representatives, mainly from local authority planning departments, and a speaker from the Planning Inspectorate.

The NWCC team sent out over 136,000 newsletters to those within a variable 1km buffer zone around the preferred route corridors, held 33 events, ran a consultation phone line and email hotdesk, and gained substantial press and media coverage of the consultation. 1772 people attended the events and 1245 responses were submitted, which were mainly of a high quality, very thorough and relating to specific questions. These are in the process of being analysed and a full report will be produced. All the responses and analyses will be posted on NWCC project website for the general public to see.

There were some common themes running through the responses: those affecting the NWIFCA and fisheries concerns focused around a) the 'Offshore' option and why it had been 'parked' in favour of the onshore route; and b) questions around the tunnel under Morecambe Bay and what else it could be utilised for (eg. road link etc); c) Duddon Estuary 'pinch points'.

a) The 'Offshore' Option was an original option of taking the cabling out into the Irish Sea from Moorside and bringing it around to Heysham, Fleetwood or Blackpool. Respondents generally considered that this would be a more suitable option than running it round sensitive terrestrial areas, and causing 'visual impact' to and from the Lake District National Park. Some cited that the costs of mitigating against the terrestrial impacts may outweigh the high costs of running it out to sea. The Senior Scientist holds this up to be a very clear justification for why it has been essential that NWIFCA has been fully engaged in dialogue with NWCC since the early stages, and that this must continue. There is little understanding of the potential impacts on the marine environment from the general public and an 'out of sight out of mind' mentality. There are few other, if any, advocates for ensuring marine environmental and fisheries interests are heard. However the NWCC team reported that once the reasoning for why this option had been parked had been explained to attendees at the events, that they were then generally accepting of the logistical and cost restrictions. It should be noted that

the main reasons for not taking this option forward are not environmental or fisheries related, but operational and functionally feasible in relation to other infrastructure already in place in the Irish Sea;

b) There was a general feeling of excitement and interest in the tunnel under Morecambe Bay proposal – some of which was fuelled by media interest and suggestions for additional uses for the tunnel. The meeting asked that NWCC make it clear to the general public what the limitations of this are and to create a realism around it. The Senior Scientist once again requested an early meeting with fishermen in relation to the size and location of the 'islets' – ventilation shafts - putting forward the argument that whereas the terrestrial aspects of the project could well be represented by many of those present in the room, only fishers active in Morecambe Bay could fully input into potential impacts of the shafts on their activities. After discussion it was agreed that the NWCC would open that dialogue in the next few weeks and that the Senior Scientist would act to facilitate invitations to a meeting. In the meantime she will also stay involved in the sub-group on the ecological impacts of the tunnel;

c) Overall there was much disquiet over the proposals for the routing round the Duddon Estuary and NWCC will be reviewing the preferred option. This may have implications for fisheries interests if a proposal to position pylons in the sands comes back to the table. The Senior Scientist has signed up to a sub-group to ensure engagement as discussions proceed, and will ensure the Authority is kept informed of developments.

PHD PROPOSAL WITH LANCASTER UNIVERSITY

Unfortunately the proposal for a PhD studentship to study and model the ephemeral mussel beds in Morecambe Bay submitted by Lancaster University as a partnership project with the NWIFCA for a NERC Doctoral Training Project was not successful. Staff at the university agreed to take it forward for the possibility of funding to their Faculty Studentships and the outcome of this is awaited. Opportunities for research project funding is an area that could be investigated by the proposed Shellfish Working Group (see separate report).

IFCA TECHNICAL ADVISORY GROUP (TAG) MEETING – LONDON 13TH NOVEMBER

The Senior Scientist attended the TAG meeting in November where scientists from all the IFCA's along with representatives from Natural England, Cefas, Environment Agency and NRW meet to share updates on their work, and discuss national issues and collaborative working opportunities. Areas of discussion covered included the availability of Fishing Activity data from Cefas to assist in MPA work; Project Inshore Stage 3 report and Stage 4, opportunities to develop fisheries improvement (for specific fisheries identified through the project); Natural England national update on resources being made available to assist MPA work; potting research projects – impacts on different habitats; Newcastle University lobster population research via trapping and remote sensing telemetry; birds and netting interactions – collaborative work between Cornwall IFCA and RSPB; Jersey IFCA – whelk minimum landing sizes and age at sexual maturity; Eastern IFCA – use of side-scan sonar to monitor cobble and boulder reef condition, and trialing of cockle shell deposit as cultch for mussel settlement. The Chair and Secretary of TAG were elected. Under the Terms of reference for TAG these seats rotate around the IFCA's. However it is becoming more and more problematic for Officers to be able to volunteer for the posts in view of the work-load faced by all, and how the role of Chair of TAG has evolved. The proposition of this becoming a paid role has been discussed at the Chief Officers Group but the outcome of that discussion was not known. The NWIFCA Senior Scientist does not feel in a position to be able to put herself forward for either of these posts at the present time, but would hope that at some point in the future this situation would change once the vast volume of EMS Review and MPA work had been completed, and a consistent and skilled Science Team had been achieved.

MEETING WITH NEW MARINE PROGRAMME DIRECTOR OF NATURAL ENGLAND

Following the appointment of Jonathan Burney as the new Marine Programme Director of Natural England, Stephen Atkins and Ms Knott had a constructive meeting with him and other national, regional and local representatives from Natural England to discuss the NWIFCA's work in relation to Marine Protected Areas, and Natural England's nationalised programme.

SOLWAY ENERGY GATEWAY

The Senior Scientist met with Nigel Catterson from the Solway Energy Gateway Project in an effort to gain a better understanding of the various projects and proposals for energy generation along the north west coast and to develop communications. It should be stressed from the outset that Solway Energy Gateway is an entirely different project from the North West Energy Squared Project previously reported on. This project is investigating the feasibility of installing an estuarine tidal energy capture between Annan and Bowness in the Solway Estuary (Fig. 2 and 3), a site that historically was bridged (Fig. 4).

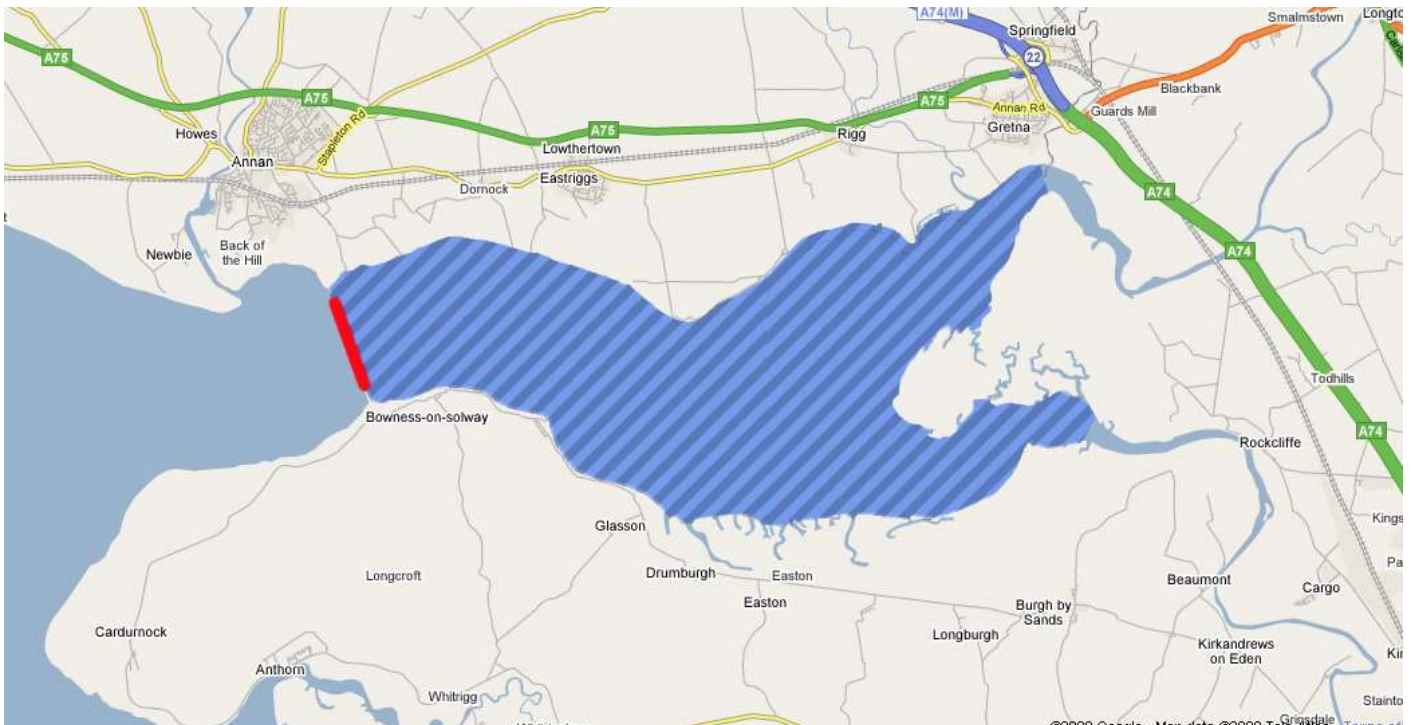


Fig. 2. Solway Energy Gateway - Proposed site of tidal energy capture scheme



Fig. 3. Solway Energy Gateway - Proposed site of tidal energy capture scheme – Bowness in foreground, Annan is distance.



Fig. 4. Bowness to Annan crossing circa 1920

A brief history of the proposal is given below:

Proposal history

2006 - Solway Energy Gateway concept launched

2009 – Solway Estuary feasibility study undertaken / Halcrow

Suitable technology identified. MOU with VerdErg Renewables Ltd signed

2012 – VETT prototype testing Dalston, Cumbria. Successful operation witnessed and certified by Lloyds Register. December 2012

2013 – Highly successful VETT fish testing carried out in Utrecht

2014 – Partnership formed with Arup

Currently the project team are seeking to raise funding for a scoping study on the Solway, which will inform a further more in-depth Feasibility Study.

Ms Knott suggests that Members invite Mr Catterson at some point in the future to present to the Authority on the project where specific questions, particularly around impacts on fish of the new

technology, can be raised with him. Further details will be made available on the website: www.solwayenergygateway.org.uk

SHALE GAS EXPLORATION

As requested by Members, Officers contacted Lancashire County Council to enquire further about shale gas exploration in the District. The letter received in reply from Jo Turton, Chief Executive, (Annex A) confirms that current planning applications for shale gas exploration in Preston New Road and Roseacre Wood do not include horizontal drilling that will reach the marine or coastal environment. For future applications the expected reach of horizontal drilling would have to be included in plans submitted by the developer. Officers further contacted Ms Turton to reiterate the role of the NWIFCA, explain Members' concerns and to request that during future applications and consultations the Authority is contacted as a matter of course.

A Lancashire County Council Planning Report released on 21st January recommended that both developments be rejected due to noise pollution and heavy traffic on rural roads. Committee meetings to decide the final outcome of the planning permission due to be held on 28th, 29th and 30th January were suspended according to the BBC for the following:

A decision on whether to allow fracking in Lancashire has been deferred by county councillors following a request from energy firm Cuadrilla.

The firm had applied to extract shale gas at its sites in Little Plumpton and Roseacre Wood, near Blackpool. But Lancashire County Council planners recommended rejecting the application due to noise and traffic problems.

It was due to be discussed by councillors, but has now been deferred by eight weeks. The council's chief legal adviser Ian Young said it would be "unlawful" for the planning development control committee to vote against a deferral. He said Cuadrilla had provided "substantial additional information" to its applications, which require further public consultation.

<http://www.bbc.co.uk/news/uk-england-lancashire-31007062> 28th January. 12.57

Science Officers
28th January 2015