

1 May 2014

**Tyne and Wear Aquifer Protection
Scheme**

Report of Lorraine O'Donnell, Assistant Chief Executive

Purpose of the Report

- 1 To provide Members of the Environment and Sustainable Communities Overview and Scrutiny Committee with background information, detailing the involvement of the Committee to date in relation to the Tyne and Wear Aquifer protection scheme, prior to the presentation by representatives of the Coal Authority and the Environment Agency providing a progress update.

Background

Environment and Sustainable Communities OSC – 14th February, 2011

- 2 The Environment and Sustainable Communities Overview and Scrutiny Committee at its meeting on 14th February, 2011 received a presentation from representatives of the Coal Authority regarding a pumping trial to determine the environmental risks posed by the rising mine water within the Westoe and Wearmouth mining block. It was confirmed by the Environment Agency that a number of concerns had been expressed in relation for the Whitburn mine water pumping trial however it was believed by the Environment Agency that the controls in place were proportionate to the trial and sufficient to protect the coast. The pumping trial took place between 28th January 2011 and 28th April 2011.
- 3 It was agreed by members at the at the Environment and Sustainable Communities Overview and Scrutiny Committee at the meeting on the 14th February, 2011 that the results of the Whitburn mine water pumping trial would be considered by the committee at a future meeting. It was also agreed that the Corporate Director of Neighbourhood Services liaise with Sunderland and South Tyneside Councils regarding the trial.

Environment and Sustainable Communities OSC – 23rd February, 2012

- 4 At the meeting of the Environment and Sustainable Communities Overview and Scrutiny Committee held on the 23rd February, 2012 members received a presentation from the Coal Authority detailing the observations and data collected from the pumping trial and to outline their proposed course of action.
- 5 At that meeting the committee was informed that Natural England had conducted a series of site inspections both during and after the pumping

trial and reported that no visible effects had been seen on the distribution or the number of flora and fauna in the vicinity of the discharge.

- 6 During the meeting members raised concerns in relation to the consultation process and the need to ensure that all relevant stakeholders are involved. In addition, members expressed concern at the increased iron levels. It was suggested by the Coal Authority that the committee may want to visit the mine water treatment plant at Dawdon.
- 7 It was agreed by the committee at the meeting on the 23rd February, 2012 that members would receive the feasibility results in relation to the various sites, the work programme and associated timescales at a future meeting and that arrangements be made for a visit by the committee to the mine water treatment plant at Dawdon. On the 4th July 2012 members of the Council's Environment and Sustainable Communities Overview and Scrutiny Committee visited the mine water treatment plant located on Foxcover Industrial Estate, Seaham.

Environment and Sustainable Communities OSC – 25th October, 2012

- 8 On the 25th October, 2012 the Environment and Sustainable Communities Overview and Scrutiny Committee received a presentation from Dr I Watson, CGeol of the Coal Authority, which provided an overview to members explaining why the protection scheme needed to be implemented, the sites which had undergone the feasibility study and the reasons why those sites had ultimately been deemed suitable or unsuitable.
- 9 The feasibility study results revealed that the preferred option would be to implement a permanent scheme at Whitburn, which had been the site of the original pump test in 2011. The existing borehole at Whitburn Coastal Park had already proven to control mine water levels across the mining block and the 2011 trials provided high confidence that a permanent scheme on that site would be a success. Furthermore sampling test results evidenced that there would be minimal impact on the surrounding coastal environment.
- 10 The Committee expressed concern on the potential environmental impact of the proposal and the subsequent effect on the Durham Heritage Coastline. It was agreed by the Committee that they would be kept updated at all stages of the process especially in relation to:
 - the further investigations to assess the environmental impact of the dispersion modelling and the sea bed survey topography to assess both the distance out to sea and the depth required to channel mine water out to sea.
 - the engagement and consultation with marine biologists and other experts on the environmental impact on the Durham Heritage Coastline and wider coastal implications along the North East coastline.

- 11 It was also agreed that discussions take place at member and officer level between Durham County, South Tyneside and Sunderland City Councils in relation to the consequences of mine water discharged into the sea.

Environment and Sustainable Communities OSC 18th January, 2013

- 12 In January, 2013 correspondence was received by the Chair of the Environment and Sustainable Overview and Scrutiny Committee from the Town Clerk at Seaham Town Council which was shared with the members of the committee at the meeting on the 18th January, 2013. The letter expressed the Town Council's concerns regarding the correspondence from the Coal Authority indicating that they were commencing a minewater pumping trial at Whitburn without further consultation and asked the Chairman to raise their concerns with the Coal Authority and to clarify the current status of the project.
- 13 It was agreed by the Committee that the Coal Authority should be contacted and asked to clarify the situation. A reply was received from the Coal Authority to say that contrary to the information received by the Town Council the Coal Authority had decided that it was not commencing with the pumping trial without any further consultation and that the current status of the project was that the Consultant had been requested to draw up a communication plan. The next step would be to circulate an information leaflet to the public and hold drop in meetings. The leaflet would be circulated to all relevant stakeholders.
- 14 In addition, dispersion modelling, which is a desk based study to gather information and identify the most suitable place for a sea out fall diffuser would take place in February and March with a draft report expected by the end of March and the final version in early April. This reply was sent to the Town Clerk for Seaham Town Council.

Stakeholders meeting held at South Tyneside Council – 17th September, 2013

- 15 Communication from officers at South Tyneside Council from March through to August 2013 confirmed that there had been no significant developments and that the main trigger for further consultation was likely to be the Coal Authority's submission of an application for either (or both) a licence from the Marine Management Organisation or permits from the Environment Agency.
- 16 Overview and Scrutiny at South Tyneside Council had requested that the Coal Authority come back to report on future developments and to identify the views of marine biologists. It is intended that representatives from neighbouring authorities would be invited to attend that Overview and Scrutiny Committee when this information would be shared.

- 17 Officers from Durham County Council attended the stakeholder meeting at South Tyneside Council on the 17th September, 2013. At that meeting Officers received a presentation from the Coal Authority providing detail of the purpose of the scheme, confirmation that the feasibility study was complete and that the optimum site had been identified as Whitburn Coastal Park and the results of the pumping trials.
- 18 The sampling of the test results showed minimal impact on the coastal environment and the outfall was sufficiently remote from bathing beaches. Investigations indicated that there is no significant ochreous plume and no significant deposit of ochreous particles. Environment Quality Standards were achieved 21 metres off the diffuser with any discharge must be within permitted EA limits. CCTV of the seabed will survey flora and fauna at 25 locations in the locality of the diffuser and would be undertaken in October 2013. It was also confirmed that annual surveys focusing on the environmental impact for 5 years would be undertaken.

South Tyneside Council – Select Committee – 31st October, 2014

- 19 A joint scrutiny committee was held at South Tyneside on the 29th October, 2013 with three member representatives sent from DCC (Cllrs Stradling, Graham and E Bell). At the Select Committee meeting members were given a presentation by the project manager from Moat MacDonald Ltd., the consultant engineers carrying out the works and the senior hydrogeologist from the Coal Authority.
- 20 It was confirmed that the aim of the scheme is to eliminate the risk of waste mine water from the old Whitburn Colliery works contaminating a freshwater aquifer which is used by Northumbrian water to supply drinking water to 30,000 residents in the South Tyneside and Sunderland areas. The basis of the proposal is to construct a pumping station and pipe the waste water out to sea through an underground pipe and a diffuser which is secured to the sea bed 270m from the shoreline. The untreated water is hypersaline and the major visible contaminant within it is iron minerals. Test pumping earlier last year together with dispersion modelling indicates that iron concentrations reach background levels which meet Environmental Quality Standards set out by the Environment Agency at a radius of 20m from the diffuser.
- 21 The main concerns from members at the meeting related to:
 - The waste mine water being pumped into the sea untreated. This was contrasted with the Coal Authority schemes in Horden and Dawdon where treatment schemes have been installed.
 - Prevailing longshore drift (North to South).
 - Lack of information about the consultation events the Coal Authority ran on the proposal.
 - Visible effects of iron minerals in suspension e.g. ochreous plume in sea and staining on shoreline.
 - Ecological effects on marine life.

- Cumulative impact of iron concentrations from rivers, residual concentrations from Horden and Dawdon schemes and the proposed Whitburn scheme.
- Effects of bio-accumulation of iron on marine life.
- Potential for other solutions to be used e.g. reed beds.

Current position

- 22 In summary, it is the responsibility of the Environment Agency to develop whatever testing and quality assurance regime that they feel is necessary to monitor environmental quality standards. The Environment Agency consultation process will commence once they have received an application from the Coal Authority for the permit. Durham County Council will be included as a consultee as part of this process.
- 23 The Environment Agency can only officially comment once an application has been received from the Coal Authority. However, the Environment Agency has indicated that there is no problem of contamination as the expected impact of the water discharge would be within a 20 metre radius of the diffuser which would be situated 270 metres from the shoreline. The pipe would be on the seabed a minimum of three metres from the surface.
- 24 Experts employed by the Coal Authority have carried out a preliminary study of the seabed involving a drop down camera to compare Whitburn with Dawdon. The results from the survey at Whitburn indicated that there was little flora and fauna and was mostly bedrock. Unfortunately, the survey at Dawdon could not be carried out due to poor weather conditions.
- 25 It is therefore considered appropriate for the Environment and Sustainable Communities Overview and Scrutiny Committee to receive a presentation from the Coal Authority and the Environment Agency updating members of the current position in relation to the project and how the Environment Agency will continue to monitor the project. Arrangements have therefore been made for from the Coal Authority and from the Environment Agency to attend the meeting on the 1 May. 2014.

Recommendations

- 26 That the Environment and Sustainable Communities Overview and Scrutiny Committee note and Comment upon the information provided during the presentation.

Contact: Tom Gorman

Tel: 03000 268027

E-mail: tom.gorman@durham.gov.uk

Author: Diane.Close

Tel: 03000 268141.....E-mail: diane.close@durham.gov.uk.

Appendix 1: Implications

Finance – None

Staffing - None.

Risk – None

Equality and Diversity / Public Sector Equality Duty – None

Accommodation – None

Crime and Disorder - None

Human Rights – None

Consultation – None

Procurement – None

Disability Issues – None

Legal Implications – None