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Thursday 15th February 2018

Dear Environmental Management Team,

Dorset Wildlife Trust response to the Colter (98/11-E) Appraisal Well: Environmental Statement

Dorset Wildlife Trust (DWT) welcomes the opportunity to comment on the Environmental Statement (ES) for the proposed appraisal well. Further to our response to Fay Dobson of Orbis Energy Limited on the EIA Scoping Report, in summary, DWT has outstanding concerns and objects to this application.

We still see the time, effort, money and research necessary to fulfil such a project would be better used to seek alternatives in renewable energy, at a time when the government's Green Growth strategy is calling for a significant acceleration in the pace of decarbonisation in the UK. [Recent analysis](#) shows that burning the reserves in already operating oil and gas fields alone, even if coal mining is completely phased out, would take the world beyond 1.5°C of warming. It is difficult, in that context, to see how this proposal could fit in with the Green Growth Strategy or the Paris Agreement on climate change.

Our main area of focus is wildlife and the natural environment, and the impact upon Dorset's sensitive marine features including the Solent and Dorset Coast proposed Special Protection Area. These species, habitats and aquaculture will be vulnerable to harm from vibration/noise, chemical toxicity, the levels of which appears to be uncertain until the drilling commences and physical change from the effects of sea disposal of cuttings. There is also the risk of oil spill, even if assessed as low risk, to the Dorset coastline, the long-term effects of which are still not completely clear. Further details of our concerns are set out below.

Proposed Drilling Operations

3.6 MODU, Logistics and Support

It is suggested up to 1000t of gravel/rock might be deposited around each leg for scour protection as previously undertaken for the 98/11-2A well. We presume this will not be recovered, the ES does not state any mitigation for this 4t of rock which will create a residual impact on the seabed.

The ES mentions the risk of non-native species through ballast water exchange, from European waters. However, the jack up rig is highly likely to become encrusted too resulting in high risk of importing or exporting non-native and/or invasive species. The ES does not mention this.

3.9 Oil Pollution Prevention Control

The following statements indicate uncertainty over the level of discharges until the well is drilled:



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“Currently it is anticipated that the well would be drilled using seawater and sweeps and water-based mud (WBM) only. It is expected that most, if not all, WBM chemicals will comprise naturally occurring products (such as barite and bentonite) that are either biologically inert or readily dispersible or biodegradable, posing little or no threat to the environment.”

“... trace metals will depend on their concentration in the WBM [water based muds]”.

We would like to know and see included in the ES, all other potential metals likely to be disturbed, and what impact these could have in the marine environment.

“During the proposed drilling operations, a minimum of five samples will be taken from the shakers (at the point of discharge) and will be sent to a laboratory for analysis to ground truth the estimated amounts of reservoir hydrocarbons discharged”. How early in the drilling process will the cuttings be analysed? Will these include samples from the oil bearing formations? We assume that no cuttings will be deposited on the seabed before the results of the hydrocarbons are back? What mitigation is there for the likely impact of increased hydrocarbons (than the already estimated 278kg in the ES) entering the environment? This estimated discharge amount is already significant. The ES does well to quantify this, but what is the impact and dispersal of this amount?

Contaminated drill cuttings and muds will be washed and discharged under permit. However, the ES does not state how much of the total muds (1,155t) will be recycled. Also, what will happen to the contaminated waste that cannot be discharged?

3.14.5 Disposal of Drill Cuttings

We consider there is no justification for the decision to discharge any cuttings to sea. It is common practice for no drill cuttings and drilling fluids, whether water-based or non-aqueous, to be discharged at sea. Those that are produced by the well need to be recycled or removed to landfill to avoid the risk of polluting the local environment containing highly sensitive species and habitats as well as contamination of nearby substantial and sensitive mollusc aquaculture beds. As correctly stated, *Sabellaria* reefs can withstand light sediment smothering but are vulnerable to physical impact, and therefore we are concerned that the *Sabellaria* reefs in the vicinity are likely to be harmed.

The sizeable cuttings pile could have physical effects, if it does not naturally disperse on the seabed, and may form a beneficial artificial reef but could also cause harm. In Section 11, the impact of drill cuttings, muds and cement smothering seabed communities is assessed as small with clogging or abrasion of sensitive feeding and respiratory apparatus of filter feeding epifaunal species. Without an understanding of the size of these cuttings, it is not possible for us to understand the likelihood of physical abrasion upon soft bodied species.

Given the highly sensitive nature of the marine environment, as well as the commercial fish populations and substantial aquaculture resources in the vicinity, we believe the ES should have reviewed a zero-discharge option.

3.14.6 Project Timing

The proposed exploration will occur either mid-April to June or September to December 2018, subject to consent and rig availability. DWT is concerned over the limited consideration toward the spawning season of the numerous commercially important fish and long-lived elasmobranch species. The proposed drill site sits within or within proximity to numerous known spawning grounds. Research by Cefas (Coull *et al.*, 1998; Ellis *et al.*, 2012) in the Navitus Bay Environmental Statement shows cod, lemon sole, sandeels, herring, Dover sole, sprat, thornback ray and undulate ray, in addition to sea bass, black seabream and common cuttlefish all use the proposed drill site and nearby location as a spawning/nursery ground. We note the ES suggests that many of the commercial fish spawning grounds are large enough to withstand some displacement. We do not agree with this and recommend that the proposal places higher consideration toward these species, in particular avoiding the spawning seasons. The Dorset inshore fishery is largely low impact and artisanal and these smaller vessels are governed by adverse weather conditions. We would also recommend speaking to Southern Inshore Fisheries and Conservation Authority for the likely socio-economic impact.

4. Environmental Baseline

Dorset Environmental Records Centre (DERC) holds a marine species and habitats database for Dorset, including data from Seasearch – a national recording project using volunteer divers – some of these records are within 1km

of the proposed drilling site. These records should be acquired and used in the ES. DWT can also provide summary reports for Seasearch surveys in and around Poole Rocks MCZ and potential Tranche 3 MCZs.

The two 'ridges' referred to in the south-east corner of the study area appear to be part of a chalk feature that can be traced from Old Harry across to the Needles. It is not clear whether any of this chalk is exposed on the seabed and seems to coincide with some of the sightings of *Sabellaria* reefs. Should there be any exposed chalk here, subtidal chalk reef is a UK priority habitat. There is no mention of this in the ES.

4.2.3 Hydrography and Metocean Conditions

The water circulation and tides data cited from Halcrow (1999), is almost 20 years old. Is there no more recent data for use here? This is important particularly concerning the proposed deposition of the cuttings pile.

4.3.2 Seabed Communities

Oil exploration should not occur within a Marine Protected Area. The exploration site sits within the boundary of the proposed Solent and Dorset Coast Special Protection Area. This site is considered for designation for internationally important populations (more than 1 % of the Great Britain breeding population) of common tern, sandwich tern and little tern. These birds are known to forage on sandeel, herring and sprat in this location and as previously highlighted, the exploration site will impact upon the spawning grounds of all three fish species.

It should be noted that the short-snouted seahorse *Hippocampus hippocampus* are also known to reside outside of seagrass habitats and have been recorded throughout Poole Bay. The Seahorse Trust hold many of these records.

The smoothhound *Mustelus mustelus* has been omitted from Table 4.10 and likely to be found within the vicinity of the proposed appraisal. This species is classified as vulnerable by IUCN.

DWT strongly recommend seeking out (if available) post drill seabed research to monitor the effects on benthos of the other appraisal well projects. These could serve to influence any future oil exploration sites in Dorset.

4.3.5 Cetaceans

The citation on bottlenose dolphin movements from Williams *et al* is 22 years out of date: "During summer, highest sightings of bottlenose dolphins were reported from Lyme Bay eastwards, and in the autumn the majority of sightings were reported off the Dorset coast" (Williams *et al*. 1996). Recent sightings data is available from Dorset Environmental Records Centre and Durlston Country Park.

8 Seabed Disturbance

"The cuttings pile that will be generated as a result of the proposed drilling operations will result in a temporary disturbance to seabed communities and demersal fish spawning grounds, predicted to be with an area extending up to 172m from the proposed well location and covering an area of up to 0.0256 km² (assuming a deposition level of 1mm or above)". "The recovery of affected areas of seabed are expected to be relatively rapid once the proposed drilling operations have ceased, although in the event stabilisation material is required, there would be a long-term loss of soft sediment habitat in an area up to 0.002 km² (1,808 m²).". The disposition level is assumed to be 1mm and above. What is the maximum deposition level?

9 Underwater Noise

The check shot survey has a maximum impact range for injury of 35km (27 miles). We would like to see basis for conclusions on the *Potential Impacts Assessment on Commercial Fisheries*. We note there is no cited research in this section and we would recommend focus upon the commercially species listed above in 3.14.6 Project Timing. Nesting black sea bream is one species of concern, particularly if the project is likely to occur during the spring. This species (most vulnerable during their nesting season) has been put forward as a feature of the recommended Purbeck Coast MCZ.

The DWT seal catalogue now contains (to date) 40 identified individuals in Dorset, since it began in 2014. Eleven of these have been photographed at least once in Poole Harbour. Whilst these numbers may not represent a "major colony", it is still a population that must be considered. One of the largest groups of seals on the south coast is in the Solent and we would recommend speaking with Hampshire & Isle of Wight Wildlife Trust for more information.

We would like to see consideration toward elasmobranch embryos – they are most vulnerable to underwater noise at this stage in their life.

11 Marine Discharges

11.3.2 Residual Reservoir Hydrocarbons

"Juvenile fish and larvae are susceptible to the toxic effects of hydrocarbons that may cause larval mortality depending on the type of oil and the exposure time (Abbriano et al., 2011). Filter feeding bivalve molluscs, may also accumulate hydrocarbons from sediments, food and water. Bivalve molluscs are less able to metabolise oil and may accumulate more and retain them for longer than other taxa (Neff, 1990) with a potential for accumulation further up the food chain".

Given the statement above and our previous concerns raised under 3.9 Oil Pollution Prevention Control, we would seek reassurance that this project is unlikely to affect the bivalve aquaculture beds.

12 Accidental Releases

Crude oil in the environment can have a detrimental effect on species development, immunity to disease and reproductive cycles. Toxic components in oil can have the potential to wipe out an entire species and there is no way to predict the outcome. Over the long term, oil can become locked into sediments and slowly released over months and years and continuing to affect the environment. For example, little is still understood on the effects of the crude oil pollution from the Prestige, in Spain, 2002, on the deep seabed and its biological communities and the rate of recovery ([Ospar, 2010](#)).

There is no assessment of the reputational risk to marketing of the fisheries catch or aquaculture products should there either be an accidental discharge or contamination discovered, especially the forthcoming Marine Stewardship Council certification for Poole Harbour clams and cockles - these species are adept at filtering out contaminants. Our DWT Chief Executive worked in La Coruña in North Spain after the Prestige spill: the seafood industry was destroyed for years after any residual contamination was found.

There is no mention of the Dorset Coastal Pollution Clearance Plan – this should form part of the ES.

We hope you will consider the points raised. Please get in touch if you require further clarification.

Yours Sincerely,

Emma Rance
Marine Conservation Officer