

## May 2022 Air Quality Risk Assessment Interim Guidance

Joint NE/EA External Lines

### Background

- Air pollution, such as ammonia and NO<sub>x</sub>, poses a threat to designated sites. In particular the deposition of nitrogen, in various reactive forms, causes changes to habitat composition and quality. In England, around 90% of Sites of Special Scientific Interest (SSSIs) with features sensitive to nitrogen deposition are receiving loadings above the levels at which harm is expected.
- To date, approaches and guidance for agricultural emissions have differed from industrial and road traffic emissions. Caselaw has also recently clarified some aspects of air quality habitat impact assessment.
- Consequently, the conservation bodies and regulators across the UK countries are considering how to update assessment approaches for decision making.
- This note only addresses assessments of Habitats Directive sites as this is the area of overlap for changes made by both organisations, and these sites are impacted by the caselaw. Differences in approach, and future changes to other designated sites are outside of the scope of this note.
- The Environment Agency aim to go to consultation on their updated external guidance in summer 2022.

### Differing Remits and Joint Working

- Natural England (NE) is a statutory consultee and provides advice to competent authorities. NE's primary focus is to provide the best available advice to conserve, enhance and manage the natural environment.
- The Environment Agency (EA) is responsible for regulating the permitted pig and poultry sector under the Environmental Permitting Regulations (EPR). As a regulator, the EA must make pragmatic and risk-based decisions and be proportionate in balancing the environmental impact and business need of the sectors they regulate.
- NE have made specific changes to assessing the impacts on European Designated Sites from agricultural sources to align the approach with other sectors and countries that apply to both planning and permitting of developments.
- To immediately address the legal rulings, EA have made specific internal changes which bring the approach more in line with caselaw. EA must go through a formal process of consultation when making changes to externally published guidance. NE does not have the same constraints in its role as adviser in updating guidance to reflect changing scientific evidence and caselaw.
- NE and EA have recently produced separate internal interim guidance for assessing the risk to designated sites from emissions to air. At this time, these approaches still differ in certain respects.
- NE and EA are working together to ensure we are aligned in developing our respective longer-term guidance for the assessment of air quality emissions. The changes reflected in our interim approaches demonstrate the direction of travel toward wider alignment between the agencies.

### Summary of Interim Approaches

EA Interim Approach (New and Expanding Intensive Pig and Poultry)

- Apply a distance criterion of 5 km at screening.

- If the process contribution alone is greater than 4% of the critical level or load using the ammonia screening tool (AST), detailed modelling will be required to progress the application<sup>1</sup>. Applications where an AST prediction is <4% alone will not be assessed further due to the conservative nature of the AST, EA analysis shows that individual sources are highly unlikely to exceed 1% where they screen as <4% using the AST.
- In the first instances, and to test the existing approach, the existing threshold of 4% of the critical level or load for European sites is applied again using detailed modelling, alone and in-combination. Where the background concentration from the in-combination assessment exceeds the critical level or load, the process contribution (PC) (based on detailed modelling) will be compared to a threshold of 1%. Where the maximum PC is >1% a detailed modelling assessment is required using case specific evidence. An insignificance threshold of 1% will be applied for in-combination assessment using the AST model.
- The EA will routinely consult with the Local Planning Authority to identify all new developments which may need to be considered in-combination.

#### NE Interim Approach

- Apply a distance criterion of 10 km at screening.
- If the PC alone or in-combination is greater than 1% of the relevant critical level or load an LSE is triggered, and appropriate assessment is required. NE uses the SCAIL model with this.
- No threshold value will be applied at appropriate assessment – the focus will be upon detailed modelling and case specific professional judgement using a suite of tools and evidence<sup>2</sup>.

### Summary of Differences

#### Screening Distances

- In EA's view, for the Pig and Poultry sector, 5 km is likely to be sufficiently protective for **most proposals**. The screening distances are based on detailed dispersion modelling using the largest permitted farms. EA intend to review and update screening distances when changes are made to the long-term guidance.
- NE expect to be consulted on proposals giving rise to air emissions if they are in proximity of a sensitive protected site as identified by Impact Risk Zones (IRZ). The screening distance is designed to be precautionary to ensure that **all proposals** with a potential impact are assessed. NE apply a range of screening distances depending on the source type and size.

#### Simple Screening Tool and Threshold

- EA use a **4% threshold with the Ammonia Screening Tool** (AST). This threshold is only appropriate to use with AST due to its conservative nature. Empirical evidence suggests that detailed modelling results tend to be several times lower than AST predictions. No in-combination screen is carried out where the alone PC is insignificant as, based upon EA's experience, this would not change the outcome of the determination. It is part of EAs longer-term ambition to update the threshold along with an appropriate simple screening tool.

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<sup>1</sup> EA have removed the upper in-combination threshold of 20% at the pre-application screening stage.

<sup>2</sup> [Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations - NEA001](#)

- NE have aligned with other countries using the **1% threshold with the SCAIL**, or other appropriate, model at screening. The 1% threshold enables the competent authority to assess the impacts of smaller concentrations of pollution which can cumulatively lead to negative outcomes for biodiversity.

#### Assessing impacts

- EA will follow their existing process as well as applying an additional check using a 1% threshold to provide reassurance that sites where the background is in exceedance, emissions more than 1% but less than 4% will not be excluded from further consideration. Additional information will be collated for consideration such as species composition, condition, and spatial extent of any threshold exceedances.
- **NE will not be applying a threshold value at appropriate assessment** in this interim approach. The focus will be upon detailed modelling (such as ADMS and AERMOD where appropriate) and case specific professional judgement using a suite of tools and evidence as outlined in our guidance. NE will be looking to reintroduce thresholds for appropriate assessment when the scientific evidence is fully evaluated.

#### Approach to in-combination assessment

- The EA use **1% with the AST as a de-minimis for in-combination assessment at the appropriate assessment stage only**. This considers the dispersed nature of multiple sources, and the low likelihood of impacts overlapping, as well as lack of detailed input data available.
- NE will continue to require an assessment **alone and/or in-combination at both screening and appropriate assessment** stages. NE will consider an insignificance threshold for in-combination assessment when the necessary underpinning evidence for a value has been thoroughly considered.

### Why is NE moving to a 1% threshold for agricultural sources?

This change in our approach to risk assessment will be made for the following reasons.

- The 1% threshold provides reassurance that sources which could result in harm or damage to a designated site alone or in-combination will not be missed from an assessment. This lower threshold enables the competent authority to assess the impacts of smaller concentrations of pollution which can accumulate and lead to negative outcomes for biodiversity and site conservation status.
- The commonly used screening tools SCAIL and AST (EA only) are often highly conservative, however the relationship between screening results and the output of detailed modelling is not always consistent. These models assume the sensitive receptor is always downwind of the prevailing direction of the source. This may be correct in some cases, whilst in others it will not be. Consequently, it cannot always be assumed that 4% (as currently applied by EA using AST), will be sufficiently protective in all scenarios. The 1% threshold increases confidence that sources with a potential impact will be screened into further assessment.
- It is preferable to align the sector with other sources – all other sources of emissions to air are regulated with a 1% screening threshold. There is no robust argument to suggest why these sectors should be treated differently and this would promote a more consistent approach.
- It is also preferable to align with other UK countries who apply the 1% threshold to SCAIL assessments for agricultural sources.