

ASSESSING THE EFFECTS OF MINING SUBSIDENCE ON AN INTERNATIONALLY IMPORTANT WETLAND SITE¹

by

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Abstract. The Lower Derwent Valley (LDV) is a flood plain of international importance for its wintering birds and is designated a Special Protection Area for Birds (SPA) under the 1979 European Communities Directive on the Conservation of Wild Birds (79/409/EEC). And is also a candidate to be a Special Area for Conservation (SAC) under the 1992 EC Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (92/43/EEC) on account of the extent of a particular type of flood meadow vegetation. Under the latter EC Directive, the European states are obliged to review the impact of existing planning consents and future planning applications for developments which may potentially affect SPAs and SACs. This is to be achieved in the UK through the 1994 Conservation Regulations which requires the planning authority to review the potential impact, and if deleterious the consents were to be modified or rescinded. The working of coal by the UK's largest mine (RJB's Selby Complex), around and under the LDV, has been taking place since the 1980's with further mining proposed into the next century. A detailed review of the potential impact of past and future mining on the biological interest of the potentially affected part of the LDV began in 1994, this included extensive and detailed site studies of wintering and breeding birds, grassland communities, invertebrates, soils, and hydrology. The key factor identified was the potential change in the incidence and nature of flooding caused by drainage from the flood plain being impeded by high river levels. The potential for change, using the field data, has been modeled. Due to the small degree of mining subsidence predicted and the larger background variation in existing site conditions, the potential effect on both the notified wintering birds and flood meadow vegetation features has been assessed to be undetectable. However, due to the importance of the site both long-term monitoring provisions and mitigation measures have been agreed with English nature, the agency charged with advising the UK Government. This has enabled mining to proceed within an agreed area. The offered paper will describe the studies and modeling undertaken, and the monitoring and mitigation agreed.

Additional Key Words: wintering birds, floor meadows, soil wetness, inundation, subsidence, modeling.

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