

## REPORT

# Phase 3 - Woodsmith Mine Protected Species Management Plan - Birds

Client: Sirius Minerals Plc

Reference: 40-RHD-WS-70-EN-PL-0012 Rev 0

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## 1 Introduction

1.1.1 In 2014 a planning application (reference NYM/2014/0676/MEIA) was submitted to North York Moors National Park Authority (NYMNPA) for permission to develop a polyhalite mine and underground Mineral Transport System (MTS). Planning consent was subsequently granted in 2015 subject to conditions.

1.1.2 This document has been prepared on behalf of Sirius Minerals plc (Sirius Minerals) and details a Protected Species Management Plan (PSMP) for breeding birds for the Phase 3 (see Paragraph 1.1.4 below) Works at Woodsmith Mine (formerly known as 'Dove's Nest Farm'). This document is required to partially satisfy the requirements of condition 52 of NYMNPA planning permission NYM/2014/0676/MEIA. It has been prepared in accordance with current good practice and in line with all relevant environmental legislation. This planning condition states that:

Table 1-1 Condition NYMNPA-52 Protected Species Management Plan – Birds

Condition	Compliance with Condition NYMNPA-52
Protected Species Management Plans (PSMPs) shall be submitted to the MPA [Mineral Planning Authority] prior to the commencement of Preparatory Works which shall not commence until the PSMPs have been agreed in writing by the MPA	This document is for breeding birds during the Phase 3 works and is ongoing throughout Phase 3.
The agreed details shall subsequently be followed unless modifications are agreed in writing with the MPA.	
The PSMPs may establish a programme of submissions to the MPA such that details are approved prior to works affecting different species and areas of the sites, shall concern protected species affected directly by works at the Dove's Nest Farm and Lady Cross Plantation sites, shall detail minimum requirements for mitigating or compensating for effects on protected species, shall require all licences that may be required in respect of effects on or re-location of protected species and their habitat to be obtained and complied with, and shall include but not be limited to consideration of the following <ul style="list-style-type: none"> <li>a. Bats (all species)</li> <li>b. Badger</li> <li>c. Adder</li> <li>d. Common lizard particularly at western side of Lady Cross Plantation</li> <li>e. Other protected reptiles</li> <li>f. Water vole</li> <li>g. Common Crossbill</li> <li>h. Goshawk</li> </ul>	This PSMP relates to breeding birds only.

1.1.3 This document only details the works required for the Phase 3 Works. It does not include any activities at Lady Cross Plantation, as these works have been deferred. Updates to this plan will be prepared for subsequent construction phases and following any design or method change. The NYMNPA has confirmed that it supports this approach.

1.1.4 The Phase 3 Works comprise the following:

- General site clearance including demolition of all farm buildings and sheds, and localised tree and scrub clearance, as shown on drawing 40-ARI-WS-71-CI-DR-1051.
- Excavation and construction of the south western extension of the upper tiered working platform at around 203m AOD, as shown on drawing 40-ARI-WS-71-CI-DR-1053.

- Excavation and construction of the Platform for the Construction Welfare Facility, Parking Area and Concrete Batching Plant, as shown on drawing 40-ARI-WS-71-CI-DR-1053.
  - Construction of temporary and permanent soil mounds, including the basal liner for a future storage facility in the northeast corner of the site for non-hazardous non-inert spoil and three topsoil, subsoil and inert material storage bunds in the southwestern area of the site, as shown on drawings 40-ARI-WS-71-CI-DR-1053 and 40-ARI-WS-71-CI-DR-1055, with earthworks volumes presented in 40-ARI-WS-71-CI-DR-1054.
  - Construction of surface water drainage, a temporary surface water attenuation pond and temporary wetland in the southern area and two permanent attenuation ponds and two wetland areas in the north eastern area, as shown on Drawing 40-ARI-WS-71-CI-DR-1050;
  - Construction of a spring and groundwater drainage layer in the north eastern area, discharging into a wetland area, as shown in drawing 40-ARI-WS-71-CI-DR-1080.
  - Installation and commissioning of temporary dewatering as shown in drawing 40-ARI-WS-71-CI-DR-1058.
  - Erection on site of the Concrete Batching Plant as shown in drawing 40-ARI-WS-71-CI-DR-1050, complete with reticulated water supplies and tanks.
  - Construction of the drilling platform and temporary saline lagoon area for the groundwater reinjection well as shown in drawing 40-ARI-WS-71-CI-DR-1057.
  - Establishment of construction welfare and security facilities - complete with hook-up of power, communications & water supplies and new waste water collection facilities as shown on drawing 40-ARI-WS-71-CI-DR-1050.
- 1.1.5 The Phase 3 Works are proposed to start in June 2017. Drawing 40-ARI-WS-71-CI-DR-1050 shows the details of these works.
- 1.1.6 This PSMP provides the necessary information relating to birds to guide working practices on site during the Phase 3 Works. This Plan, together with similar PSMPs for bats (a.), badger (b.) and reptiles (c. and e.), provides a suite of documents containing the information required to partially discharge Planning Condition 52 (as it relates to the scope of the Phase 3 works). A PSMP has not been provided for water vole (f.) as the ecological surveys undertaken to date have confirmed their absence. This approach has been discussed and agreed with NYMNPA and Natural England.
- 1.1.7 Survey findings to date confirm that no other protected species are present on site and further PSMPs are not necessary. This has been confirmed by the MPA. Should additional species subsequently be identified, the 'precautionary method of working' would apply and additional plans can be prepared as necessary.
- 1.1.8 Each PSMP has drawn on information available at the time of preparing this document, including that which informed the ES and SEI.
- 1.1.9 This PSMP follows the format of the document submitted for the Phase 2 Works. It will be updated if anything during that Phase requires it. Should the Phase 2 works demonstrate that amendments to the PSMP is required, an updated document will be produced and submitted to the NYMNPA

## 2 Legislation affording protection to birds

2.1.1 **Table 2-1** provides a summary of the relevant legislation which affords protection to birds.

Table 2-1 *Summary of legislation which affords protection to birds*

Species	Legislation (England)	Offences	Licensing procedures and guidance (England)
Birds	<i>Wildlife and Countryside Act 1981 (as amended) S. 1</i>	<p>Intentionally kill, injure or take any wild bird; intentionally take, damage or destroy the nest of any wild bird while that nest is in use or being built; intentionally take or destroy the nest or eggs of any wild bird</p> <p>Intentionally or recklessly disturb a Schedule 1 species while it is building a nest or is in, on or near a nest containing eggs or young; intentionally or recklessly disturb dependent young of such a species</p>	<p>No licences are available to disturb any birds in regard to development</p> <p>Licences are available in certain circumstances to damage or destroy nests, but these only apply to the list of licensable activities in the Act and do not cover development</p> <p>General licences are available in respect of 'pest species' but only for certain very specific purposes e.g. public health, public safety, air safety</p>

## 3 Surveys undertaken to date

### 3.1 Baseline breeding bird surveys

3.1.1 Breeding bird surveys were undertaken from April – June in 2012 and 2013 by Paul Chester & Associates (PCA). Full details of these surveys are contained in the ES/SEI and these are summarised in **Section 4.1** of this document.

### 3.2 Goshawk, Crossbill and Nightjar Surveys

3.2.1 Targeted surveys for common crossbill, goshawk and nightjar were undertaken in 2014 and followed the standard survey methods for these species (i.e. recording of the 'churring' male crossbill, and the methodology recommended in *Raptors: A Field Guide for Surveys and Monitoring* (Hardey *et al.*, 2009) for goshawk). The survey area included Woodsmith Mine, Sneaton Low Moor and Ugglebarnby Moor. The full results of these surveys are presented in the ES/SEI and are summarised in **Section 4.1** of this document.

### 3.3 Baseline wintering bird survey

3.3.1 A wintering bird survey was undertaken between October 2011 and March 2012 by PCA. The full results of these surveys are presented in the ES/SEI and are summarised in **Section 4.2** of this document.

## 4 Key survey findings

### 4.1 Baseline breeding bird surveys

4.1.1 The land at Woodsmith Mine was assessed as providing poor breeding bird habitat, supporting rarely occurring skylark and occasional feeding of meadow pipit. The greatest numbers of breeding birds were recorded within the woodland habitats, specifically within Haxby Plantation. The rare or noteworthy species recorded during the breeding bird surveys to date are presented in **Table 4-1**.

Table 4-1 Rare/noteworthy species noted during the baseline breeding bird surveys

Species/ Conservation Status		Territories/ Pairs
<b>Wildlife and Countryside Act Schedule 1 Species</b>		
Common crossbill	<i>Loxia curvirostra</i>	5-10 pairs (estimated)
Goshawk	<i>Accipiter gentilis</i>	Non-breeding
<b>Council Directive 2009/147/EC Annex 1 Species</b>		
No such species		
<b>BTO Red List Species</b>		
House sparrow	<i>Passer domesticus</i>	5-10 pairs
Lesser redpoll	<i>Carduelis cabaret</i>	1 territory
Linnet	<i>Carduelis cannabina</i>	1 territory
Skylark	<i>Alauda arvensis</i>	1 territory
Song thrush	<i>Turdus philomelos</i>	1 territory
Starling	<i>Sturnus vulgaris</i>	6 territories

Species/ Conservation Status		Territories/ Pairs
Tree sparrow	<i>Passer montanus</i>	4-5 pairs
Yellowhammer	<i>Emberiza citronella</i>	1 territory
BTO Amber List Species		
Bullfinch	<i>Pyrrhula pyrrhula</i>	1 territory
Dunnock	<i>Prunella modularis</i>	8 territories
Swallow	<i>Hirundo rustica</i>	4-5 pairs
Whitethroat	<i>Sylvia communis</i>	1 territory
Willow warbler	<i>Phylloscopus trochilus</i>	6 territories
Woodcock	<i>Scolopax rusticola</i>	2 territories

## 4.2 Goshawk and crossbill survey

### Goshawk

- 4.2.1 One record of a single male goshawk was observed in the vicinity of the Woodsmith Mine site during the 2012 survey. In addition, an individual bird was recorded in the vicinity of the farm during the 2014 wintering bird survey. No records of breeding goshawk have been noted within the vicinity of the Woodsmith Mine site and as such there was no evidence to suggest breeding goshawk was present.
- 4.2.2 The presence of several 'plucking posts' in 2013/2014 was noted; these are potentially indicative of goshawk being present, although no individual birds have been recorded.

### Common crossbill

- 4.2.3 As reported in the submission documents, seven breeding crossbill were recorded in the vicinity of the Woodsmith Mine site during the 2012 survey. Presence of crossbill was confirmed in 2014, but no further breeding was observed.



- 4.2.4 All of the seven records of breeding common crossbill noted during the 2012 surveys were located within the 150m Maximum Common Crossbill Disturbance Zone of the Woodsmith Mine site. This includes two located within the boundary itself. Five of these records were located within the Haxby Plantation, while a further two were located within the strip of mixed woodland north of Whinny Wood. Common crossbill feeds on conifer seeds so it is likely that this species will be restricted to coniferous / mixed woodland areas and are unlikely to move into nearby semi-natural woodland areas to breed.

### 4.3 Wintering bird surveys

- 4.3.1 During the 2011 and 2012 surveys, the areas of arable and improved/semi-improved pasture fields were noted to provide occasional value as a wintering habitat for feeding birds. Species recorded included carrion crow, rook, black-headed gull, common gull, herring gull, fieldfare, stock dove, starling, and woodpigeon. Flocks of waders, particularly lapwing were also occasionally present in the survey area. Mixed flocks of passerines were also encountered during the survey period and within cropped arable fields. Key species included chaffinch, goldfinch, linnet, meadow pipit, skylark, tree sparrow and yellowhammer. Occasional pheasant and grey partridge were noted within the field boundaries.
- 4.3.2 Haxby Plantation supported a typical range of species, specifically coal tit and goldcrest. Other species included blackbird, blue tit, bullfinch, greenfinch, great-spotted woodpecker, woodcock and woodpigeon.

## 5 Mitigation

### 5.1 Nesting birds

- 5.1.1 Mitigation will be required to minimise the risk of harm to nesting birds as vegetation removal works will be undertaken in Q3 2017 (during the breeding/nesting season). A sensitive felling methodology will be followed for these works. This will involve the identification of specific areas to be cleared, followed by surveys for occupied nests (or nests being built) being carried out by an ecologist prior to any works being undertaken. The survey will be undertaken a maximum of 48 hours prior to the commencement of works. Any nest in use or being built during this survey will need to be left undamaged until the chicks have fledged and an alternative approach to the works proposed.

### 5.2 Specific mitigation for Schedule 1 birds

#### Defining disturbance zones

- 5.2.1 Bird tolerances to disturbance were derived from a 2008 study using expert opinion to identify reasonable disturbance zones for individual species (Whitfield, Ruddock and Bullman, 2008). The study used the opinions of a range of experts to identify the median distance at which individual species (i) respond to disturbance by becoming alert and (ii) respond to disturbance by taking flight. The outcome for common crossbill, goshawk and nightjar are shown in **Table 5-1**.

Table 5-1 Summary of expert opinion on selected Schedule 1 bird distance distances

Species	During Incubation				During chick-rearing				90% range
	Alert distance		Flight distance		Alert distance		Flight distance		
	Median	80% range	Median	80% range	Median	80% range	Median	80% range	
Common crossbill	5	<10-150	5	<10-50	5	<10-150	5	<10-50	100-150
Goshawk	125	10-500	30	<10-500	175	50-500	75	10-300	300-500
Nightjar	5	<10-150	5	<10	18	<10-150	5	<10-100	100-150

*All distances are in metres*

Adapted from Whitfield, Ruddock and Bullman, 2008

5.2.2 For the purposes of this document, a precautionary approach to determining disturbance distances has been used. Therefore the upper limit of the 90% range (i.e. excluding the top 5% and lower 5% of expert opinions only) has been used. This gives a minimum disturbance distance for key selected species as follows:

- Common crossbill - **150m**
- Nightjar - **150m**
- Goshawk - **500m**

5.2.3 Common crossbill have a very protracted breeding season, which can run from January to December (although breeding is concentrated in the period January to May) thus making it difficult to time works outside of the breeding season. To avoid disturbing breeding common crossbill, where works are likely to take place within 150m of a common crossbill record pre-construction surveys are required to check whether breeding has commenced at this location. This is required at any time of year. The pre-construction check will involve an ecologist visiting the woodland areas where records have been identified and carrying out targeted common crossbill surveys following the standard methodology of seeking to record 'churring' males. The ecologist must carry a valid licence to disturb a Schedule 1 species which will cover crossbill species within Woodsmith Mine.

5.2.4 If breeding common crossbill are found during the pre-construction check, liaison with Natural England will be undertaken to agree the approach to working within 150m of the nest sites. Given the precautionary nature of the disturbance buffer used, and depending on location, timing and nature of the works, it may be possible to then agree a smaller buffer. If this is not possible then a disturbance buffer will need to be set up and no works will be able to take place within 150m of the nest site until the young have fledged. Combined nesting duration (incubation and fledging) for common crossbill is 34-40 days (Robinson, 2005), therefore if an active nest is found a disturbance buffer will remain in place for 40 days to ensure the young have fledged.

5.2.5 With respect to goshawk, although this species has not been recorded to date, a pre-construction check for this species will be undertaken as best practice. In the event that a nesting individual is recorded, further ecological advice would be sought and a way forward agreed prior to the works continuing within 500m.

## 6 Summary

- 6.1.1 Woodsmith Mine has been assessed as providing a poor breeding bird habitat, which supports a typical range of species but also including some notable species.
- 6.1.2 In terms of Schedule 1 species the following findings were made during the surveys:
- Common crossbill was recorded in 2011/2012 surveys but was not during the 2013/2014 surveys; and
  - The presence of several 'plucking posts' in 2013/2014 was noted. These are potentially indicative of goshawk being present. None have been recorded on site.
- 6.1.3 The mitigation measures that will be employed at the site in relation to birds are summarised as follows:
- As the Phase 3 Works are targeted to commence in June 2017, which is within the breeding bird period, a sensitive felling methodology will be implemented. This will involve the identification of specific areas to be felled, followed by surveys for occupied nests (or nests being built) being carried out by an ecologist prior to any works being undertaken (undertaken a maximum of 48 hours prior to the commencement of works);
  - Any nest in use or being built during this survey will be left undamaged until the chicks have fledged and an alternative approach to the works proposed; and
  - Specific pre-construction surveys are required to check whether crossbills have commenced breeding within 150m of the proposed works (to be carried out at any time of year). If breeding common crossbill are found, liaison with Natural England will be undertaken to agree the approach to working within 150m of the nest sites.
- 6.1.4 It is considered that through implementation of the mitigation measures outlined in this document, the site will be managed to ensure their protection and in turn compliance with the legislation afforded to them.

## 7 References

Hardey, J et al. (2009) Raptors: A Field Guide for Surveys and Monitoring. Edinburgh, Scottish Natural Heritage.

Robinson, R.A. (2005) BirdFacts: profiles of birds occurring in Britain & Ireland (BTO Research Report 407). BTO, Thetford (<http://www.bto.org/birdfacts>, accessed on 20/08/2015)

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Whitfield, D.P., Ruddock, M., Bullman, R. (2008) Expert opinion as a tool for quantifying bird tolerance to human disturbance. *Biological Conservation* 141, p2708-2717.