

Arventus Skylark Metric User Guide

1. Introduction

This document provides a step by step user guide to the Arventus Skylark Metric. It will be necessary for you to input the site specific data as instructed. Black text within bullet points denotes an action. [Blue text](#) provides additional useful information where appropriate.

This document should be read alongside: Arventus Skylark Metric – Worked Example to support User Guide.

Upon opening the Metric new users will need to register. Thereafter you will be able to login from the same screen. This will ensure that you always have access to the most up to date version of the Arventus Skylark Metric. It also allows you to save your projects in a private, password-protected part of the Metric server.

2. Glossary

Term	Definition
Adjusted Area	The total land area of a Field in hectares after removing any land within 50m of an existing boundary and any tree/structure of greater than 1m in height
Developed Area	The land area in hectares which will experience a change to the current land use as a result of the Proposed Development (excluding proposed skylark mitigation areas)
(Proposed) Development Site	The area encompassing the entire Developed Area
Edge Adjusted	This is the area of land within an adjacent field which includes a 50m offset (suggested) from all boundaries. When considering offsite adjacent fields this should also only include habitat no greater than 200m from the Internal Foraging Buffer Edge.
Edge Effect	A term used to describe the reduction in potential nesting habitat (due to skylark predator avoidance behavior) as a result of creating a buffer from field boundaries and structures. A buffer of 50m (suggested) from all existing boundaries and any tree/structure of greater than 1m in height is applied within the Metric
Field	A defined area separated from adjacent land by defined boundaries
Field Area	The total land area of a Field in hectares
Field Reference	The number/letter allocated to a particular Field within the Metric
Foraging Area	The area of suitable habitat available for skylarks to feed
Foraging Resource	Food available within an area for skylarks to eat
Foraging Uplift	The increase in potential skylark territories as a result of an increase in

	Foraging Resource within a defined Foraging Area
Ha	Hectares
Internal Foraging Buffer Edge	The internal extent of the defined Foraging Area within either a Development Site or Mitigation Field
Mitigation Field Perimeter	The perimeter of a proposed field to be used for skylark mitigation
Project Boundary	The Red Line Boundary
Proposed Development	The works which are detailed within the planning application/consent
Red Line Boundary	The planning application/consent boundary
Unadjusted Area	The total land area of a Field in hectares (with no allowance for the Edge Effect)
Undeveloped Area	The land area in hectares of any land within a Field which is outside of the Developed Area.

3. Step by Step Guide

Project Dashboard

The Project Dashboard allows you to create new projects and access previously created projects.

Create a New Project

1. Click the 'Add New Project' button. This will take you to the Project Details screen.
2. Complete each of the project information fields. [The Project Name field is mandatory. All other fields are optional but contribute to the detail within the final metric report.](#)
3. Click 'SAVE AND CLOSE' to create the project and return to the dashboard or click 'NEXT' to move on to the next step.

[Note: At any point during completion of the metric you can 'save and close' which will return you to the dashboard or click 'next' to move on to the next step. Users can also navigate between screens using the tabs at the top of the screen throughout the metric.](#)

Access an Existing Project

1. Under the 'Name' heading in the table, identify which Project you wish to access.
2. Access your chosen Project by clicking on the green text of the Project Name.
3. You can also chose to delete the Project by clicking on the 'Delete Project' Button.
4. Once you have entered the Project you can then follow the steps below to complete, amend or finalise your Project Metric.

Baseline Habitat (Step A of the Worked Example)

This section of the Metric calculates the potential number of nesting territories for skylarks within the defined Project Boundary. This section of the Metric requires you to provide the baseline information for the Proposed Development Site. Each field is considered individually. A field is considered to be a land area denoted by an existing continuous boundary greater than 1m in height.

1. Click 'Add Row' to add a field.
2. Insert a 'Field Reference' by clicking on 'New' and replacing it with a preferred reference. [Suggested reference names are F1, F2 etc.](#)
3. Manually insert the 'Field Area' in hectares.

4. Use the drop down lists to add the habitat for Year 1- Year 5. [Habitat options are split into habitat types in Scotland and England. Ensure that you select the correct habitat.*](#)
5. Fields can be deleted by selecting the bin icon under 'Actions' on the right hand side of the table.
6. Continue adding fields as set out in points 1-4 above until all of the fields within the Project Boundary are included.
7. Click 'SAVE AND CLOSE' to return to the dashboard or click 'NEXT' to move on to the next step or click 'COMPLETE & RESULTS' to calculate or update the results.

[Note: Where only part of a field is to be developed include the entire field area in this part of the metric.](#)

[* If a site survey has been completed then a territory density per hectare can be calculated and manually inserted by selecting 'Survey Data' from the drop down menu. If it is known that the baseline habitat has been arable for the previous 4 years but the crop type is unknown, please select the 'Rotational Crop' option.](#)

Habitat Edge Adjustment (Step B of the Worked Example)

This section of the Metric allows for a refinement of the calculation of the potential number of nesting territories for skylarks within the defined Development Boundary by applying the 'Edge Effect'. The Edge Effect is a result of the nesting behaviour of skylarks whereby they avoid nesting near to field boundaries and structures.

1. Complete the 'Field Area adjusted for Edge Effect (ha)' field by manually typing in the calculated area. [This is the remaining field area after allowing a 50m* buffer from all field boundaries and structures greater than 1m in height.](#)
2. Complete for all Fields listed down the left hand side of the table. [This list is automatically populated from the 'Baseline Habitat' section of the Metric.](#)
3. Click 'SAVE AND CLOSE' to return to the dashboard or click 'NEXT' to move on to the next step or click 'COMPLETE & RESULTS' to calculate or update the results.

[* 50m is the suggested buffer. A user can apply a reduced or increased buffer to accommodate site specific circumstances as appropriate. It is suggested that this should be done in consultation with the relevant consultees/advisors.](#)

Development Area (Step C of the Worked Example)

This section of the Metric calculates the potential number of skylark territories displaced as a direct result of the Proposed Development.

1. Complete the 'Developed Area (Unadjusted)' field by manually typing in the total area to be developed within each individual Field. [If only part of a Field is to be developed then only the area to be developed should be included in this column.](#)
2. Complete the 'Developed Area (Adjusted)' field by manually typing in the Adjusted Area to be developed. [This is the Field area which will be developed with a 50m buffer from all Field boundaries and structures greater than 1m in height excluded to account for the Edge Effect.](#)
3. Complete the 'Undeveloped >5 (ha)' field using the drop down menu.
[Select 'Yes' if the area within the field boundary which will remain undeveloped is greater than 5ha. Undeveloped areas greater than 5ha can then be included in the Mitigation Calculations Option A.](#)
[Select 'No' if the area within the field boundary which will remain undeveloped is less than 5ha. The remaining area of the field should then be included within the Development Boundary for the Foraging Requirements calculation.](#)
4. If you selected 'Yes' above then complete the 'Additional Loss from New Boundary' field by manually typing in the area within 50m of any newly created boundary on the non-development side of the new boundary ([refer to Scenario 2 within the Worked Example](#)).
5. Complete steps 1-4 above for all Fields listed down the left hand side of the table. [This list is automatically populated from the 'Baseline Habitat' section of the Metric.](#)
6. Click 'SAVE AND CLOSE' to return to the dashboard or click 'NEXT' to move on to the next step or click 'COMPLETE & RESULTS' to calculate or update the results.

[Note: If a Field is only partially developed and the remaining habitat is less than 5ha the Metric will base the calculations on the loss of the entire area. If a Field is only partially developed and the remaining habitat is greater than 5ha the Metric will base the calculations on the loss of the developed area plus a 50m wide buffer along the non-development side of the newly created boundary.](#)

Foraging Requirements (Step D of the Worked Example)

Additional foraging benefits for skylarks nesting on land adjacent to a Proposed Development Site can be delivered depending upon the size and type of habitat creation within a Development Boundary. Within the Metric this foraging benefit is referred to as the Foraging Uplift.

Skylarks have a limited foraging distance of 200m. Only habitat within 200m of a potential skylark nesting locations are considered within the Metric.

This section of the Metric specifies the Foraging Area required within the Proposed Development Site which is required to offset the calculated territory displacement as a result of the Proposed Development. The Foraging Area is assumed to satisfy the minimum habitat creation and maintenance criteria set out in *Appendix A of this Guidance Note*.

This is one of two limiting factors when calculating the potential Foraging Uplift available as a result of a Proposed Development. Maximising this benefit is a balance between the provision of a Foraging Resource on site for nesting skylarks offsite. It may therefore require multiple revisions to the calculations to achieve the best results.

It is suggested that a 50m buffer from the perimeter of the Development Boundary is used to initially calculate the available Foraging Area.

1. Calculate the total available Foraging Area on site. To do this calculate the land area within 50m of the Development Boundary perimeter. [This does not need to take into account individual field boundaries \(refer to Figure 9 within the Worked Example\).](#)

[If the calculated Foraging Area is greater than that stated in the 'Area of foraging land required onsite to achieve no net loss of territories \(ha\)' field, then you may wish to reduce your buffer to maximise the offsite nesting area which can be considered within the future calculations.](#)

[If the calculated Foraging Area is smaller than that stated in the 'Area of foraging land required onsite to achieve no net loss of territories \(ha\)' field, then you may wish to increase your buffer to maximise the onsite foraging available. However, the benefit of doing this will be dependent upon the available offsite nesting habitat so it may be best to revisit following the completion of the Foraging Uplift Delivered section of the Metric.](#)

2. Click 'SAVE AND CLOSE' to return to the dashboard or click 'NEXT' to move on to the next step or click 'COMPLETE & RESULTS' to calculate or update the results.

Foraging Uplift Delivered (Step E of the Worked Example)

This section of the Metric calculates the Foraging Uplift available by considering the existing suitability of habitat adjacent to the Development Site for nesting skylarks within foraging distance (200m) of the site.

The offsite areas calculated must include a 50m offset from all boundaries and only include suitable habitat no greater than 200m from the Internal Foraging Buffer Edge.

Only adjacent fields of suitable habitat and greater than 5ha should be included within this section of the Metric.

1. Click 'Add Row' to add a field.
2. Insert a 'Field Reference' by clicking on 'New' and typing in a preferred reference. [Suggested reference names are AF1, AF2 etc.](#)
3. Calculate and manually insert the 'Edge Adjusted Area' in hectares. [This is the area of land within an adjacent field which includes a 50m offset from all boundaries and only habitat no greater than 200m from the Internal Foraging Buffer Edge.](#)
4. Use the drop down lists to add the Habitat Type. [Professional judgement should be used to determine which of the habitat categories available best reflects the habitat present. If the habitat falls outside of the provided habitat categories then the potential suitability for nesting skylarks will need to be confirmed. If a Development Site survey has been completed then the calculated territory density per hectare should be applied where habitat is the same. This can be manually inserted by selecting 'Survey Data' from the drop down menu. If a survey of the offsite land has been completed then the territory density per hectare can be calculated and manually inserted by selecting 'Survey Data' from the drop down menu.](#)
5. Fields can be deleted by selecting the bin icon under 'Actions' on the right hand side of the table.
6. Continue adding fields as set out in points 1-4 above until all relevant fields have been included.
7. Click 'COMPLETE & RESULTS' to generate the Project Results.

Project Results (Step F of the Worked Example)

This section of the Metric presents a summary of the results. The Metric advises whether based upon the calculations any additional mitigation is required to ensure that there is no net loss of potential skylark territories. It may not always be appropriate or proportionate to aim for no net loss and an acceptable displacement figure should be agreed with the competent authority.

1. If you do not wish to make any changes to the Metric click 'Download PDF Report' located at the bottom of the screen to produce a PDF report which can be submitted to the relevant consultee.
2. If the Metric identifies the need for additional mitigation click on the 'Add Mitigation' button and see further guidance below. [Additional mitigation can be added even if it is not required by clicking on 'Add Mitigation'.](#)
3. Click 'Back to Dashboard' if you wish to return to the Project Dashboard.

Mitigation

The section of the Metric applies if the results indicate that additional mitigation is necessary to achieve no net loss of skylark territories. It may also apply if you wish to provide additional mitigation beyond that calculated as being required.

The potential mitigation options are split into two categories. The first is for fields greater than 5 hectares which are considered to provide additional nesting habitat (Option A). The second is for fields smaller than 5ha which are considered to provide additional foraging habitat only (Option B).

Mitigation Land – Option A (Offsite Mitigation Field is greater than 5 hectares)

This section of the Metric should be used for fields greater than 5 hectares which are considered to provide additional nesting habitat.

1. Click 'Add Row' to add a mitigation field.
2. A box will pop up.
3. Insert a 'Field Reference' by clicking on 'New' and replacing it with a preferred reference. [Suggested reference names are MA1, MA2 etc.](#)
4. Manually insert the 'Field Area' in hectares.
5. Manually insert the 'Edge Adjusted Area (ha)'. [This is the remaining field area after removing a 50m buffer from all field boundaries.](#)

6. Use the drop down list to specify the 'Habitat Type Baseline'. [Habitat options are split into habitat types in Scotland and England. Ensure that you select the correct habitat.](#)
7. Use the drop down list to specify the 'Habitat Type Created'. [Habitat options are split into habitat types in Scotland and England. Ensure that you select the correct habitat.](#)
8. Click 'SAVE' at the bottom left of the pop up box.
9. Fields can be deleted by selecting the bin icon under 'Actions' on the right hand side of the table.
10. Continue adding fields as set out in steps 1-8 above until all of the proposed mitigation fields have been added.
11. Click 'COMPLETE & RESULTS' to calculate or update the results.

Mitigation Land – Option B (Offsite Mitigation Field is less than 5 hectares)

This section of the Metric should be used for fields smaller than 5ha which are considered to provide additional foraging habitat only. It will follow the same calculation process as the foraging uplift calculation for the main site.

1. Click 'Add Row' to add a mitigation field.
2. A box will pop up.
3. Insert a 'Field Reference' by clicking on 'New' and replacing it with a preferred reference. [Suggested reference names are MB1, MB2 etc.](#)
4. Manually insert the 'Field Area' in hectares.
3. Calculate the total available 'Internal Foraging Area'. [It is suggested that this should be calculated by applying an internal 50m buffer around the Mitigation Field Perimeter. This can be varied if needed.](#)
4. Select the 'Habitat Type Baseline' from the drop down menu. [The Metric calculations are based on the Mitigation Land being converted into set aside.](#)
5. Click 'Add Adjacent Field' to add an adjacent field containing suitable skylark nesting habitat.
6. Insert a 'Field Reference' by clicking on 'New' and typing in a preferred reference. [Suggested reference names are MBAF1, MBAF2 etc.](#)
7. Calculate and manually insert the 'Edge Adjusted Area' in hectares. [This is the area of land within an adjacent field which includes a 50m offset from all boundaries and only habitat no greater than 200m from the Mitigation Field Internal Foraging Buffer Edge.](#)
8. Use the drop down lists to add the Habitat Type. [Professional judgement should be used to determine which of the habitat categories available best reflects the habitat present. If the habitat falls outside of the provided habitat categories,](#)

then the potential suitability for nesting skylarks will need to be confirmed. If a Development Site survey has been completed then the calculated territory density per hectare should be applied where habitat is the same. This can be manually inserted by selecting 'Survey Data' from the drop down menu. If a survey of the offsite land has been completed then the territory density per hectare can be calculated and manually inserted by selecting 'Survey Data' from the drop down menu.

9. Fields can be deleted by selecting the bin icon under 'Actions' on the right hand side of the table.
10. Continue adding fields as set out in points 5-8 above until all of the relevant fields adjacent to the Mitigation Land have been included.
11. Click 'save' at the bottom left of the pop up box.
12. Repeat Steps 1 -11 above until all proposed Mitigation Fields less than 5ha in size have been added.
13. Click 'COMPLETE & RESULTS' to generate the Project Results

APPENDIX A

SUGGESTED SET ASIDE HABITAT CREATION AND MANAGEMENT

- Seed with a species rich grassland mix.
- Avoid grass cutting during the Ground Nesting Bird Season from 1st March-August. Avoid cutting any grass until the Wildflowers and grasses have had chance to flower and set seed (August/ September).
- Long grass and Wildflowers can cause shading/ hot-spots during the summer months, especially when the panels are situated close to the ground. Tall/ dry vegetation can also pose a significant fire risk around the solar equipment. To prevent shading, a "production cut" can be completed which involves one pass with a mower in front of the arrays and also around the CCTV line, so that site security is not compromised. A production cut ensures that the majority of the grassland remains uncut. A mosaic of differing grass lengths will also benefit a number of different species.
- A full site cut should follow; end of August/ September. After this date the grassland should then be cut or grazed back and any arisings would be removed so as not to leave a mulch and to help reduce soil fertility.
- Prior to grazing the grass should be topped to a suitable height before sheep are introduced. Sheep should then be removed in February to repeat the cycle.