**Supplementary Material 4**: *Model coefficients and standard errors of predictor variables (^2 denotes a quadratic effect) for each of the 15 conditional logistic regression models built on different spatial and temporal scales (see* ***Table 2*** *for model significance). Each table represents one of the 3 time lags compared using AIC (see Table 1).*

| **Model** | **0-12 month time lag** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Buffer** | **2km** | | **3km** | | **4km** | | **5km** | | **6km** | |
| **df** | 20 | | 20 | | 20 | | 20 | | 20 | |
| **AIC** | 8420.93 | | 8425.08 | | 8421.53 | | 8413.44 | | 8418.75 | |
| **deltaAIC** | -7.49 | | -11.64 | | -8.08 | | 0.00 | | -5.31 | |
| **-** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** |
| **Dairy** | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 |
| **Other** | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 |
| **Suckler** | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 |
| **Elevation** | -1.24E-03 | 1.79E-03 | -1.31E-03 | 1.80E-03 | -1.39E-03 | 1.80E-03 | -1.44E-03 | 1.80E-03 | -1.41E-03 | 1.80E-03 |
| **Elevation^2** | 1.06E-05 | 6.67E-06 | 1.08E-05 | 6.71E-06 | 1.13E-05 | 6.73E-06 | 1.16E-05 | 6.73E-06 | 1.16E-05 | 6.73E-06 |
| **LandParcels** | 1.56E-02 | 1.47E-02 | 1.48E-02 | 1.47E-02 | 1.50E-02 | 1.47E-02 | 1.52E-02 | 1.48E-02 | 1.47E-02 | 1.47E-02 |
| **LandParcels^2** | 1.01E-04 | 6.36E-04 | 1.24E-04 | 6.36E-04 | 1.25E-04 | 6.37E-04 | 1.21E-04 | 6.39E-04 | 1.35E-04 | 6.37E-04 |
| **ClearfellArea** | 2.03E-04 | 2.09E-03 | 2.27E-04 | 6.76E-04 | 9.60E-05 | 3.34E-04 | 1.25E-04 | 2.16E-04 | 6.76E-05 | 1.32E-04 |
| **Natural Grassland** | 6.29E-03 | 3.01E-03 | 3.62E-03 | 1.85E-03 | 1.52E-03 | 1.11E-03 | 5.53E-04 | 7.30E-04 | 5.22E-04 | 5.42E-04 |
| **MixedForest** | -3.81E-03 | 1.53E-03 | -1.16E-03 | 1.07E-03 | -4.47E-04 | 8.11E-04 | -5.57E-04 | 6.37E-04 | -6.96E-05 | 5.28E-04 |
| **BroadleafForest** | 2.24E-03 | 1.51E-03 | 3.55E-04 | 9.04E-04 | -6.51E-04 | 6.49E-04 | -7.17E-04 | 5.04E-04 | -5.48E-04 | 4.21E-04 |
| **Natural Grassland^2** | -2.58E-05 | 1.45E-05 | -1.27E-05 | 6.71E-06 | -4.91E-06 | 2.65E-06 | -1.89E-06 | 1.11E-06 | -1.04E-06 | 5.68E-07 |
| **MixedForest^2** | 2.52E-05 | 8.56E-06 | 5.13E-06 | 4.77E-06 | 2.24E-06 | 2.67E-06 | 2.74E-06 | 1.61E-06 | 8.33E-07 | 1.06E-06 |
| **BroadleafForest^2** | -4.80E-06 | 4.92E-06 | -4.38E-08 | 1.59E-06 | 1.22E-06 | 7.63E-07 | 1.01E-06 | 4.84E-07 | 6.38E-07 | 3.56E-07 |
| **CattleNumber** | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.31E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 |
| **CattleNumber^2** | -2.12E-05 | 3.26E-06 | -2.12E-05 | 3.25E-06 | -2.11E-05 | 3.26E-06 | -2.10E-05 | 3.25E-06 | -2.11E-05 | 3.25E-06 |
| **ClearfellArea^2** | -2.55E-07 | 4.98E-06 | -5.86E-09 | 5.48E-07 | 2.36E-08 | 1.49E-07 | -7.29E-09 | 7.11E-08 | 6.33E-09 | 2.63E-08 |
| **ClearfellArea :NaturalGrassland** | -3.94E-05 | 1.78E-04 | 1.28E-05 | 1.97E-05 | 1.84E-05 | 7.93E-06 | 7.43E-06 | 2.28E-06 | 2.89E-06 | 1.10E-06 |
| **ClearfellArea: MixedForest** | -8.80E-05 | 4.74E-05 | -1.84E-05 | 9.20E-06 | -4.98E-06 | 2.83E-06 | -3.22E-06 | 1.19E-06 | -1.13E-06 | 5.51E-07 |
| **ClearfellArea: BroadleafForest** | -9.20E-05 | 1.10E-04 | -9.98E-06 | 2.23E-05 | -1.74E-06 | 5.87E-06 | 6.60E-08 | 2.10E-06 | -2.15E-07 | 8.27E-07 |

| **Model** | **12-24 month time lag** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Buffer** | **2km** | | **3km** | | **4km** | | **5km** | | **6km** | |
| **df** | 20 | | 20 | | 20 | | 20 | | 20 | |
| **AIC** | 8423.98 | | 8427.63 | | 8425.95 | | 8419.81 | | 8419.81 | |
| **deltaAIC** | -10.54 | | -14.19 | | -12.51 | | -6.37 | | -6.37 | |
| **-** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** |
| **Dairy** | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 |
| **Other** | -0.13 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 |
| **Suckler** | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 |
| **Elevation** | -1.36E-03 | 1.80E-03 | -1.34E-03 | 1.80E-03 | -1.33E-03 | 1.80E-03 | -1.41E-03 | 1.80E-03 | -1.41E-03 | 1.80E-03 |
| **Elevation^2** | 1.11E-05 | 6.68E-06 | 1.09E-05 | 6.68E-06 | 1.09E-05 | 6.70E-06 | 1.15E-05 | 6.73E-06 | 1.15E-05 | 6.73E-06 |
| **LandParcels** | 1.53E-02 | 1.47E-02 | 1.50E-02 | 1.47E-02 | 1.50E-02 | 1.47E-02 | 1.54E-02 | 1.48E-02 | 1.54E-02 | 1.48E-02 |
| **LandParcels^2** | 1.09E-04 | 6.34E-04 | 1.24E-04 | 6.34E-04 | 1.28E-04 | 6.34E-04 | 1.20E-04 | 6.39E-04 | 1.20E-04 | 6.39E-04 |
| **ClearfellArea** | 1.59E-03 | 4.42E-04 | 2.30E-04 | 4.42E-04 | 1.95E-04 | 2.23E-04 | 3.77E-05 | 1.52E-04 | 3.77E-05 | 1.09E-04 |
| **Natural Grassland** | 6.05E-03 | 1.83E-03 | 3.73E-03 | 1.83E-03 | 1.87E-03 | 1.09E-03 | 6.09E-04 | 7.18E-04 | 6.09E-04 | 5.41E-04 |
| **MixedForest** | -3.43E-03 | 1.07E-03 | -9.67E-04 | 1.07E-03 | -2.61E-04 | 7.99E-04 | -2.61E-04 | 6.17E-04 | -2.61E-04 | 5.24E-04 |
| **BroadleafForest** | 1.84E-03 | 9.03E-04 | 2.98E-04 | 9.03E-04 | -5.34E-04 | 6.44E-04 | -5.97E-04 | 5.02E-04 | -5.97E-04 | 4.22E-04 |
| **Natural Grassland^2** | -2.38E-05 | 6.59E-06 | -1.25E-05 | 6.59E-06 | -4.66E-06 | 2.51E-06 | -1.67E-06 | 1.03E-06 | -1.67E-06 | 5.59E-07 |
| **MixedForest^2** | 1.61E-05 | 4.82E-06 | 2.06E-06 | 4.82E-06 | 8.31E-07 | 2.55E-06 | 1.27E-06 | 1.44E-06 | 1.27E-06 | 9.92E-07 |
| **BroadleafForest^2** | -4.04E-06 | 1.58E-06 | 4.61E-08 | 1.58E-06 | 1.12E-06 | 7.60E-07 | 9.28E-07 | 4.84E-07 | 9.28E-07 | 3.57E-07 |
| **CattleNumber** | 1.31E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 |
| **CattleNumber^2** | -2.11E-05 | 3.25E-06 | -2.12E-05 | 3.25E-06 | -2.11E-05 | 3.25E-06 | -2.11E-05 | 3.25E-06 | -2.11E-05 | 3.26E-06 |
| **ClearfellArea^2** | -6.36E-07 | 1.47E-07 | 5.38E-08 | 1.47E-07 | 9.07E-09 | 4.67E-08 | 1.79E-08 | 2.63E-08 | 1.79E-08 | 1.32E-08 |
| **ClearfellArea :NaturalGrassland** | -1.72E-04 | 2.89E-05 | -1.25E-05 | 2.89E-05 | -1.38E-06 | 1.02E-05 | 4.18E-06 | 1.93E-06 | 4.18E-06 | 1.11E-06 |
| **ClearfellArea: MixedForest** | 2.35E-06 | 6.72E-06 | -3.29E-06 | 6.72E-06 | -1.77E-06 | 2.35E-06 | -1.83E-06 | 1.11E-06 | -1.83E-06 | 5.76E-07 |
| **ClearfellArea: BroadleafForest** | 3.94E-05 | 1.87E-05 | 6.74E-06 | 1.87E-05 | -2.65E-06 | 5.42E-06 | -1.51E-06 | 2.23E-06 | -1.51E-06 | 9.98E-07 |

| **Model** | **24-36 month time lag** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Buffer** | **2km** | | **3km** | | **4km** | | **5km** | | **6km** | |
| **df** | 20 | | 20 | | 20 | | 20 | | 20 | |
| **AIC** | 8427.11 | | 8427.97 | | 8424.13 | | 8419.29 | | 8419.64 | |
| **deltaAIC** | -13.67 | | -14.53 | | -10.68 | | -5.85 | | -6.20 | |
| **-** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** | **Coef** | **Std. Error** |
| **Dairy** | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 | 1.59 | 1.14E-01 |
| **Other** | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.14 | 1.90E-01 | -0.13 | 1.90E-01 |
| **Suckler** | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 | 0.96 | 1.03E-01 |
| **Elevation** | -1.30E-03 | 1.80E-03 | -1.35E-03 | 1.80E-03 | -1.33E-03 | 1.81E-03 | -1.33E-03 | 1.81E-03 | -1.29E-03 | 1.81E-03 |
| **Elevation^2** | 1.09E-05 | 6.68E-06 | 1.11E-05 | 6.73E-06 | 1.11E-05 | 6.75E-06 | 1.12E-05 | 6.76E-06 | 1.09E-05 | 6.75E-06 |
| **LandParcels** | 1.50E-02 | 1.47E-02 | 1.48E-02 | 1.47E-02 | 1.49E-02 | 1.47E-02 | 1.45E-02 | 1.48E-02 | 1.45E-02 | 1.47E-02 |
| **LandParcels^2** | 1.16E-04 | 6.35E-04 | 1.24E-04 | 6.34E-04 | 1.28E-04 | 6.34E-04 | 1.35E-04 | 6.38E-04 | 1.31E-04 | 6.38E-04 |
| **ClearfellArea** | -4.96E-04 | 2.59E-03 | 2.80E-05 | 9.32E-04 | -2.24E-04 | 4.05E-04 | -8.96E-05 | 2.46E-04 | -3.24E-05 | 1.75E-04 |
| **Natural Grassland** | 5.91E-03 | 3.02E-03 | 3.46E-03 | 1.81E-03 | 1.73E-03 | 1.08E-03 | 7.94E-04 | 7.22E-04 | 8.70E-04 | 5.52E-04 |
| **MixedForest** | -3.44E-03 | 1.54E-03 | -1.10E-03 | 1.10E-03 | -3.69E-04 | 8.05E-04 | -4.22E-04 | 6.27E-04 | -1.07E-05 | 5.23E-04 |
| **BroadleafForest** | 2.28E-03 | 1.51E-03 | 3.82E-04 | 8.92E-04 | -6.27E-04 | 6.34E-04 | -6.80E-04 | 4.91E-04 | -5.89E-04 | 4.13E-04 |
| **Natural Grassland^2** | -2.71E-05 | 1.50E-05 | -1.20E-05 | 6.45E-06 | -4.51E-06 | 2.48E-06 | -1.72E-06 | 1.03E-06 | -1.14E-06 | 5.88E-07 |
| **MixedForest^2** | 1.66E-05 | 8.40E-06 | 3.35E-06 | 4.91E-06 | 1.52E-06 | 2.54E-06 | 1.88E-06 | 1.52E-06 | 5.85E-07 | 1.01E-06 |
| **BroadleafForest^2** | -4.91E-06 | 4.95E-06 | -7.94E-08 | 1.58E-06 | 1.20E-06 | 7.53E-07 | 9.86E-07 | 4.77E-07 | 6.53E-07 | 3.52E-07 |
| **CattleNumber** | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 | 1.32E-02 | 1.17E-03 |
| **CattleNumber^2** | -2.12E-05 | 3.26E-06 | -2.12E-05 | 3.25E-06 | -2.12E-05 | 3.25E-06 | -2.11E-05 | 3.25E-06 | -2.12E-05 | 3.25E-06 |
| **ClearfellArea^2** | 7.37E-07 | 3.26E-06 | 7.68E-08 | 5.36E-07 | 1.17E-07 | 1.19E-07 | 3.93E-08 | 4.59E-08 | 1.68E-08 | 2.54E-08 |
| **ClearfellArea :NaturalGrassland** | 3.52E-04 | 3.08E-04 | 3.55E-05 | 1.65E-04 | 5.71E-06 | 4.91E-05 | -4.29E-06 | 1.72E-05 | -1.31E-05 | 1.01E-05 |
| **ClearfellArea: MixedForest** | -1.29E-05 | 4.49E-05 | -2.08E-05 | 1.54E-05 | -6.88E-06 | 4.54E-06 | -3.83E-06 | 1.86E-06 | -1.70E-06 | 9.06E-07 |
| **ClearfellArea: BroadleafForest** | -1.06E-04 | 1.45E-04 | -4.51E-06 | 2.80E-05 | -7.16E-07 | 8.67E-06 | -8.80E-08 | 3.08E-06 | 4.22E-08 | 1.33E-06 |

*Herd types: Dairy, Suckler, Other, Beef (reference); Land Parcelsb: denotes the number farm subdivision; ClearfellAreac: denotes the extent (ha) of conifer forest cut within the spatial buffer; Habitatd: denotes the habitat extent (ha) within the spatial buffer*