*West Lancashire Agricultural Plain.*

# Wintering Bird Survey Report.

## Specific to Pink-footed Goose (*Anser brachyrhynchus*)

**Compiled by Ecology Services Ltd.**

**Members of the Institute of Ecology and Environmental Management.**

*on behalf of*

Aurora Exploration (UK) Limited

**July 2014**

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**TABLES AND FIGURES**



**DRAWINGS**

## 1.0 INTRODUCTION

1.1 Ecology Services Limited was commissioned by Aurora Exploration (UK) Limited in August 2013, to undertake a Wintering Bird Survey (WBS) over an area of land in the Downholland Moss area of West Lancashire covering approximately 50km$^2$, from Altcar Bridge in the southwest (NGR 331723 407991) to Primrose Hill in the northeast (NGR 340070 409710).

***Background***

1.2 A number of previous ecological surveys were undertaken in 2011/12 for an area of Downholland Moss off Moss Lane (NGR 332177 408270 at centre) for the purpose of Site Investigation bore holes. As part of the initial surveys a Wintering Bird Survey (WBS) was undertaken to gather empirical data as to the numbers of over wintering Pink-footed geese that would normally feed or roost in and around the proposed area of works that would have direct links with the Ribble/Alt Special Protection Area (SPA) and Ramsar site (*refer to Norris Farm Exploration Site Survey Report compiled by Ecology Services Ltd*).

1.3 Following on from the initial surveys, the Client has now extended the license area which now covers approximately 50km$^2$ and requires further empirical data with regards to use of the land by over-wintering birds, in particular pink-footed geese, and other species of conservation concern, especially Whooper swan (*Cygnus cygnus*) and Bewick's swan (*Cygnus columbianus*).

1.4 This report provides the results of this extended survey and assesses the correlation between agri-environment and determining the presence of the above species.

## 2.0 SURVEY METHODOLOGY

2.1 The whole site was compartmentalised into 5 areas (See Drawing 1 - 7), and given a Vantage Point (VP) from which a surveyor was able to clearly visually assess the land within that specific area and to note (with the aid of spotting scopes and binoculars) the presence of feeding/roosting birds associated with the protected sites, along with the agri-environment on which they were situated.

2.2 The numbers of geese and the associated agri-environment were then plotted on a map and notes taken using a field survey sheet.

2.3 Geese that would only settle for short periods were not classified, as this would not be deemed as long term feeding/roosting activity. Fly-over's were also discounted from the final figures.

2.4 A total of 21 surveys were conducted, which normally consisted of 2 dawn and 1 dusk survey per month, from September 2013 to March 2014, inclusive.

2.5 Dawn surveys where conducted 30 minutes prior to sunrise to monitor geese as they left their overnight roost from either Formby Point in the west and Simonswood Moss to the south, to move inland to their feeding grounds. Pink-footed geese could easily be identified and counted either flying over or landing to feed in fields within the designated VP site areas.

2.6 Dusk surveys were conducted 1 hour prior to twilight to check for geese that were still feeding or roosting within the site areas, prior to their return to coastal roosts.

2.7 All surveys were undertaken adopting species-specific survey techniques as prescribed by RSPB, WWT, BTO (*Gilbert 1998*) and WeBS core counting process, with amended site-specific variations.

***Personnel***

2.8 A total of 5 qualified and competent bird surveyors were used on each survey. Each surveyor was equipped with x10 binoculars and x60 spotting scope. Individual surveyors were able to communicate with each other via mobile phones and/or walkie-talkies throughout each survey.

***Limitations of Survey***

2.9 One survey was postponed in October due to adverse weather conditions but an additional survey was undertaken in January 2014 to cover for the October shortfall. The postponement of the survey in October would not have had any adverse effects with regards to the overall survey results.

***Conservation status***

2.10 All the species mentioned in Section 1.3 have direct links to the Ribble and Alt Estuary Special Protection Area (SPA)/RAMSAR and Martin Mere SPA/RAMSAR sites.

2.11 For a wetland to be recognised as being of international ornithological importance and to qualify as an SPA, it must hold at least 1% or more of the estimated population on one species of water bird.

2.12 In the non-breeding season, the UK's SPA suite for the Iceland/Greenland population of pink-footed geese supports, on average, 360,000 individuals (calculated using totals from the WWT/JNCC/BTO Wetland Bird Survey 2009/10). From 2005/2010 the mean total of pink-footed geese identified in southwest Lancashire was 49,802. This total amounts to 13% of the British population and 18% of the international population. The suite comprises 24 sites at which pink-footed geese have been listed as a qualifying species.

2.13 Whooper and Bewick's swan are protected under Schedule 1, part 1 of the Wildlife and Countryside Act (WCA) 1981, and are recognised as UK Species of Principal Importance.

## 3.0 SURVEY RESULTS

3.1 Over the period from September 2013 to March 2014 all counts of pink-footed geese, Whooper swan and Bewick's swan actively feeding/roosting were recorded along with the agri-environment in which the birds settled. Small numbers of Whooper swans were observed flying over or settling for very short periods within VPs. No Bewick's swans were recorded on any of the surveys. For this reason these species were discounted from the overall results. Table 1 gives the peak and mean number for each area.

**Table 1:** Peak Monthly Counts of Pink-footed geese (September 2013 – Mar 2014)

| Area (VP) | Sept | Oct | Nov | Dec | Jan | Feb | Mar |
|---|---|---|---|---|---|---|---|
| **VP1** | **876** (259) | **12600** (9227) | **1500** (950) | **3330** (1620) | **5500** (2163) | **680** (227) | - |
| **VP2** | **30** (10) | **1800** (1433) | **3000** (1500) | **5500** (2700) | **5000** (3913) | **3000** (1000) | - |
| **VP3** | **-** | **16196** (7242) | **6800** (5465) | **1250** (828) | **5050** (1275) | **5084** (1695) | - |
| **VP4** | **134** (45) | **2170** (723) | - | - | - | **3200** (1067) | - |
| **VP5** | - | **2200** (733) | - | - | - | - | - |

Numbers in brackets () indicate mean average over that month. Numbers in RED indicate numbers over 1% threshold (3,600)

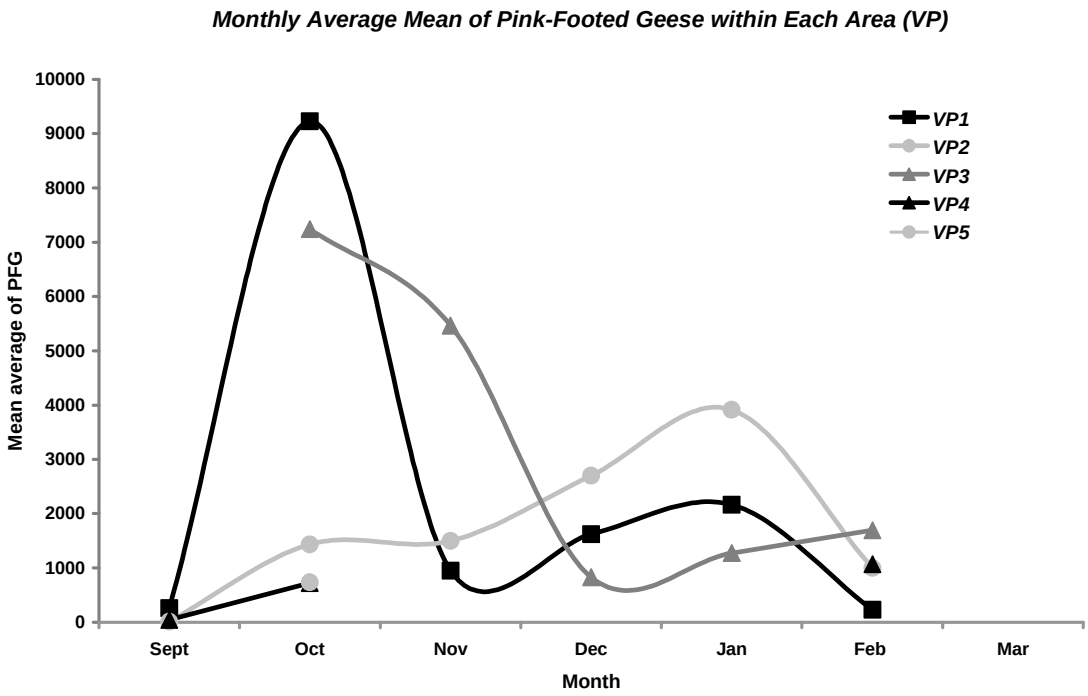


**Figure 1:** Monthly Average Mean of Pink-footed geese (September 2013 – Mar 2014)

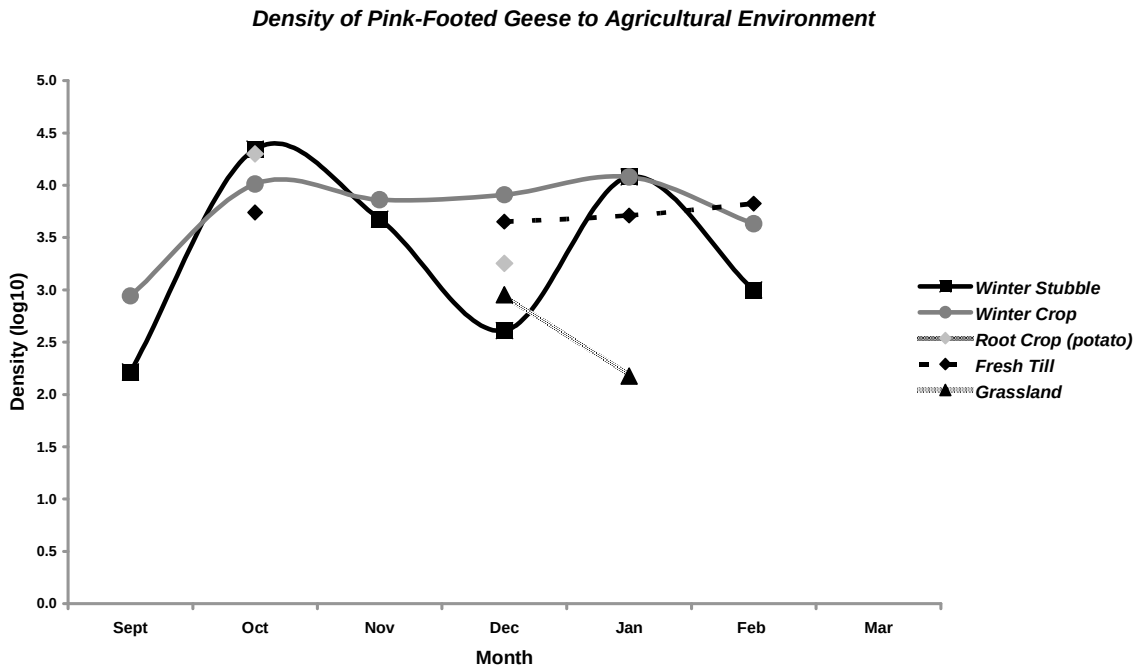


**Figure 2:** Density of pink-footed geese in relation to agri-environment (September 2013 – Mar 2014)

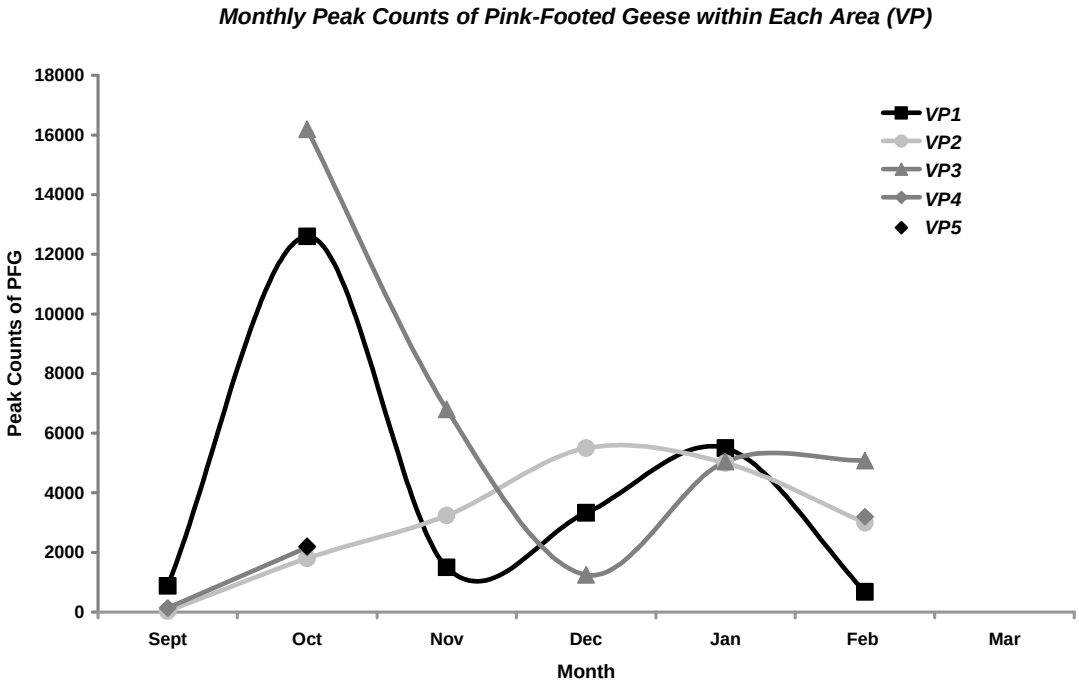


**Figure 3:** Peak Monthly Counts of Pink-footed geese (September 2013 – Mar 2014)

## 4.0 EVALUATION

4.1 As can be seen in Table 1, low numbers of pink-footed geese with the 50km$^2$ survey area are apparent in September. There is however a very sharp rise in October with a peak number of c35,000 throughout the survey area.

4.2 The largest numbers observed during October are concentrated around VP1 (12,600) and VP3 (16,196) (Downholland Moss and Plex Moss). These numbers correlate with the harvesting of maize and potato root crops undertaken at this time of year.

4.3 Numbers and densities steady out during November, December and January (see Fig 2), finally falling in February and March.

4.4 From November to January larger densities of pink-footed geese are found evenly spread within winter crops (when fresh shoots are emerging) and the remains of the winter stubbles. This is very apparent at VP2 where agriculture was a mixture of winter crops and stubbles.

4.5 Grasslands appears to be a less favourable habitat for feeding pink-footed geese with low numbers found only during December and January.

4.6 The majority of pink-footed geese were observed to the west of the survey area at Plex Moss, Downholland Moss and The Withins, with the A5417 seeming to be a dividing line, from Haskayne in the north to Lydiate in the south, where numbers of pink-footed geese to the east were relatively low or none existent (VP4 and 5) with the largest count being 3200 in October at VP4 and 2200 at VP5 and February.

## 5.0 CONCLUSIONS and RECOMMENDATIONS

5.1 During the winter months migrating pink-footed geese are an important factor when determining significant affects to the conservation interest of the Ribble and Alt Estuary SPA/RAMSAR site. Pink-footed geese have a large roost on the marsh off Formby and will move inland, sometimes considerable distances to feed on adjoining agricultural land and Martin Mere, itself an SPA/RAMSAR site.

5.2 When planning any development or construction works within or in proximity to agricultural land near to the Ribble and Alt Estuary SPA/RAMSAR during the winter months, impacts to pink-footed geese should be taken into consideration.

5.3 As it stands, when undertaking a desktop search, the whole of the West Lancashire agricultural plain is given blanket coverage as to the presence of pink-footed geese during the winter months with no indication at a site specific level.

***Agri-environment and pink-footed geese***

5.4 The result of the survey show that pink-footed geese are not indiscriminate in their feeding habits but are more adventitious to there surroundings.

5.5 Several conclusions can be made of the results;

- Largest numbers of geese within this area of West Lancashire will be encountered during October, especially from the roost at Formby
- Fields of recently harvested crops are more likely to hold the greatest number of geese
- Roots crops, such as potato, saw the largest densities of geese compared with other agricultural settings
- After the harvest period in October, pink-footed geese numbers decline slightly and finally steady out over November to January within the area and are evenly distributed predominantly around winter stubbles and winter crops
- Favourable habitat is found west of the A5417, from Haskayne to Lydiate. Numbers of geese encountered east of this ‘boundary’ are likely to very low.
- Determination can be predicted as to the likely impacts on pink-footed geese by reviewing the agricultural environment at a site specific level prior to development or works undertaken during the winter months within this area of West Lancashire.
- The low numbers of whooper swans were considered to be transient records of birds moving from the coastal area and to other feeding grounds situated at Martin Mere and not resulting from any agri-environment practices within the survey area.

5.6 This large scale survey has determined that there is a correlation between the agricultural environment and the likely presence of feeding pink-footed geese at particular periods of the winter season.

***Recommendations***

5.7 A survey of the agricultural environment around the development and up to 500m around the site should be undertaken prior to winter months to map the agri-environment.

5.8 The agricultural landscape is very dynamic and can change dramatically from year to year, therefore it is also recommended that any agricultural survey is repeated the following year if works are delayed over the initial wintering period.

5.9 Liaison with landowners prior to development to create a less favourable agricultural environment around areas of development, with planting of more favourable crops further afield.

5.10 A prediction can then be made as to the likely presence of pink-footed geese during the winter season and in what numbers and densities within 500m of the proposed development/site.

5.11 An Assessment of Likely Significant Effects can then be determined with regards to impacts on the conservation interests of Ribble and Alt Estuary SPA/RAMSAR.

5.12 The Habitat Regulations Directive (92/43/EEC) established a network of Natura 2000 sites, within the European Community, with the objective of protecting sites that are considered to be of exceptional importance to rare, containing endangered and vulnerable natural habitats and species. These sites are European designated sites and are known as Special Areas of Conservation (SAC), Special Protection Areas (SPA's) and Offshore Marine Sites (OMS). Planning Policy also recommend that RAMSAR sites should be afforded the same level of consideration as the Natura 2000 sites.

5.13 To ensure that the protection of these sites is considered during the planning process at a regional and local level, works in close proximity of, or that have the potential to affect a European designated site, require an Assessment of Likely Significant Effect (ALSE). Even where planning permission is not required for a scheme an ASLE should be completed.

5.14 Where a development is likely to have a significant effect upon a European designated site, an Appropriate Assessment (AA) of the implications of the works upon a European site, in view of the sites conservation objectives, will be required. The Planning Authority will require either the ALSE or the AA in support of any planning application and Natural England will need to be consulted as part of this process to obtain the correct assents when required.

5.15 The Habitat Regulations Directive (92/43/EEC) transposed into UK law in 1994 as The Habitats Regulations, which was subsequently amended and is now known as the Conservation of Habitats and Species Regulations 2010.

## 6.0 REFERENCES

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**Drawing 1-7:**
Distribution of Pink-footed geese (*Anser brachyrhynchus*) from September 2013 to March 2014

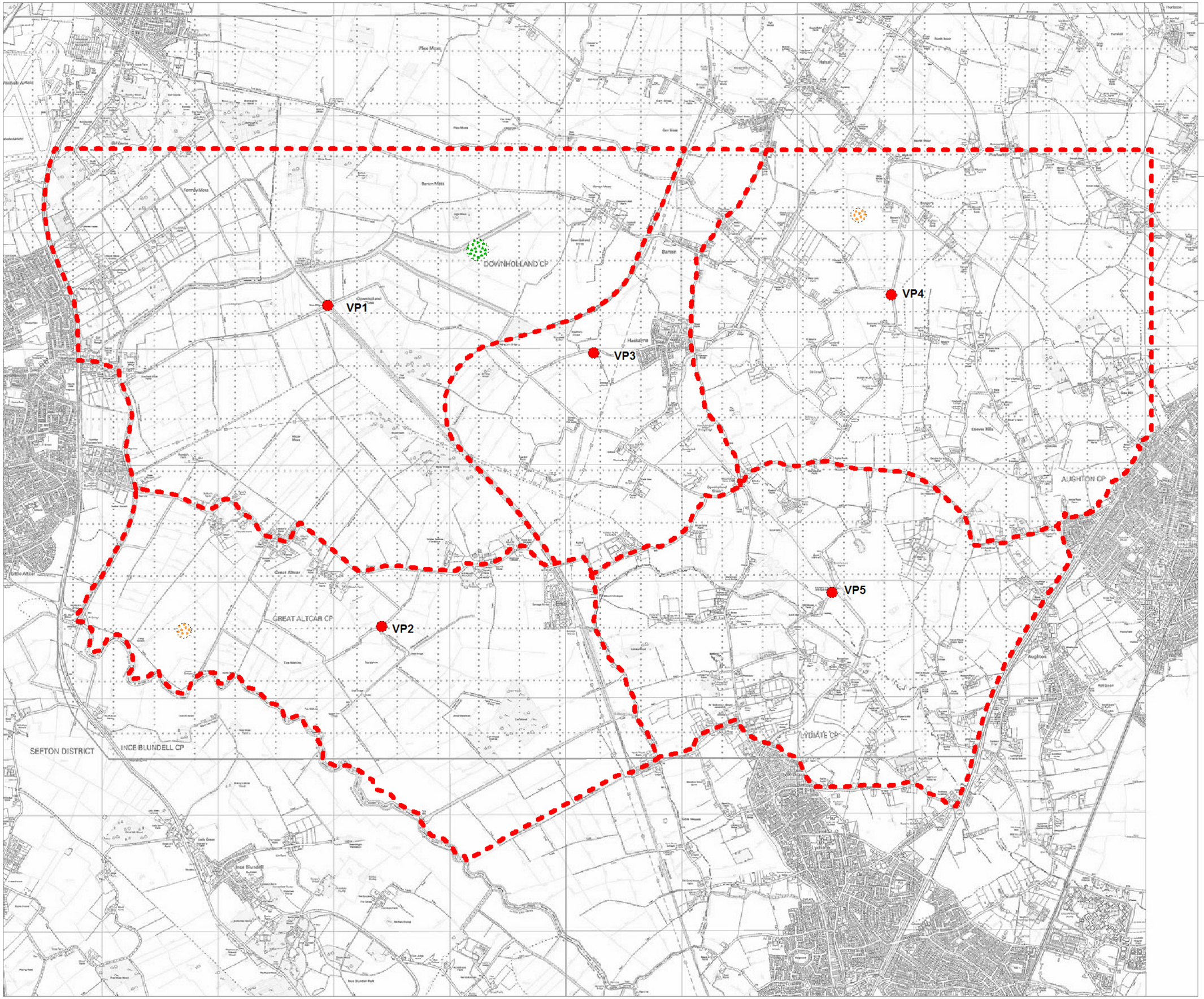
Downholland Moss.

# Distribution of Pink-footed geese (Anser brachyrhynchus) in relation to agri-environment.

September 2013

Map Ref:
NW: SD 300 100
SW: SD 300 050
SE: SD 400 050
NE: SD 400 100

Scale: Not to scale.




**Key:**

- VP Areas
- Winter Stubbles
- Winter Crop
- Root Crop
- Grassland
- Tilled Land

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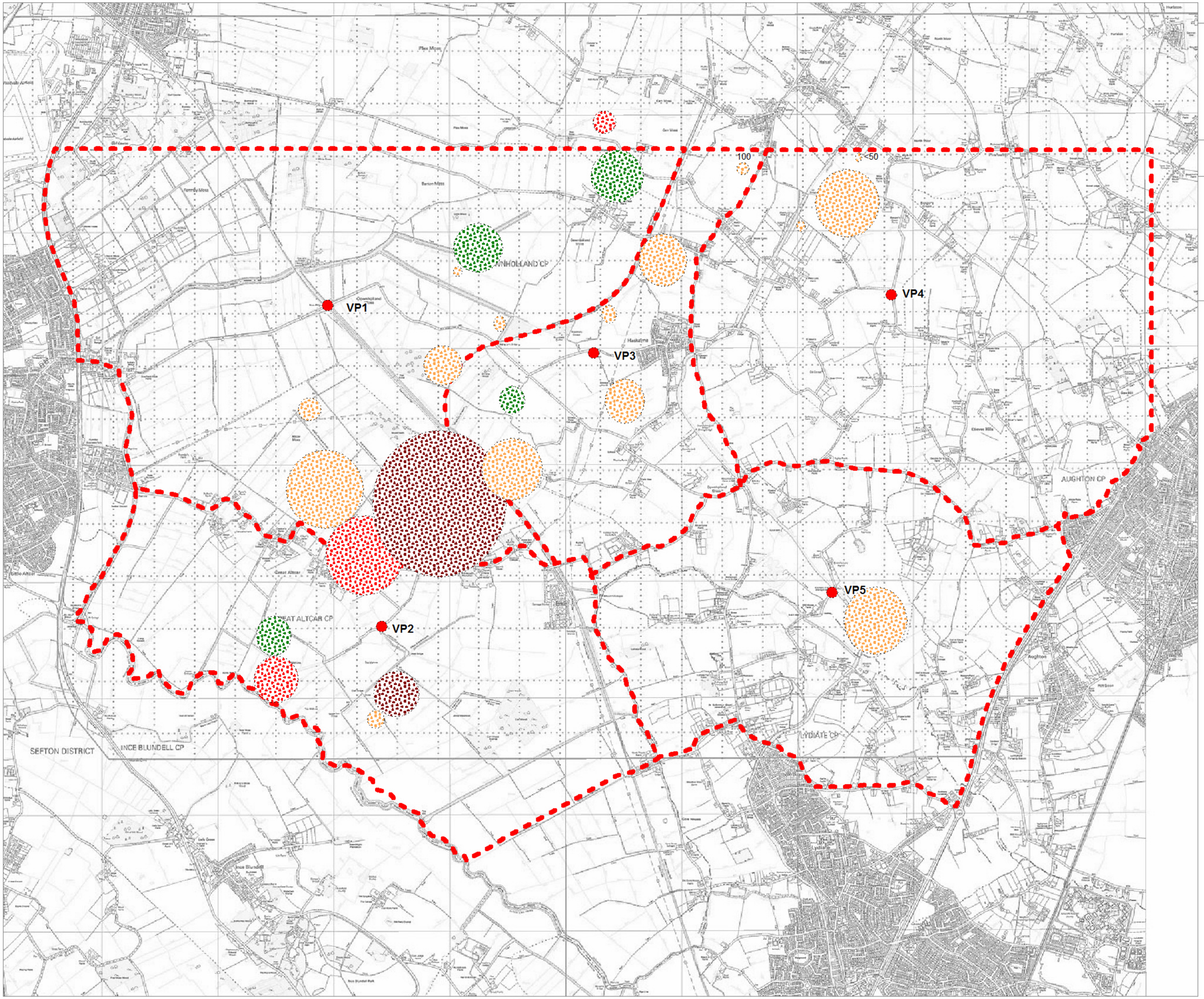
Downholland Moss.

# Distribution of Pink-footed geese (Anser brachyrhynchus) in relation to agri-environment.

October 2013

Map Ref:
NW: SD 300 100
SW: SD 300 050
SE: SD 400 050
NE: SD 400 100

Scale: Not to scale.

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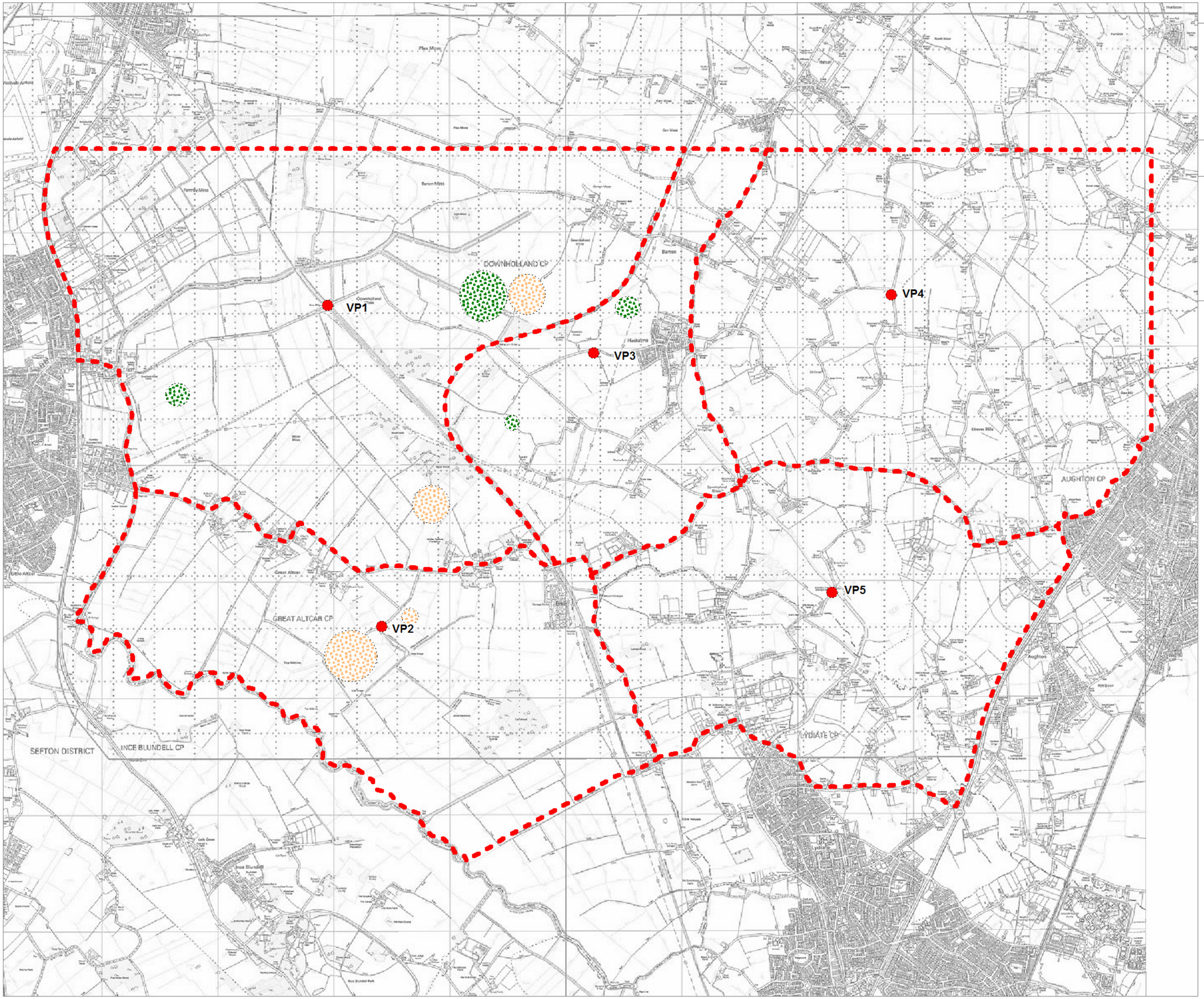
# Distribution of Pink-footed geese (Anser brachyrhynchus) in relation to agri-environment.

November 2013

Map Ref:
NW: SD 300 100
SW: SD 300 050
SE: SD 400 050
NE: SD 400 100

Scale: Not to scale.

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# Distribution of Pink-footed geese (Anser brachyrhynchus) in relation to agri-environment.

December 2013

Map Ref:
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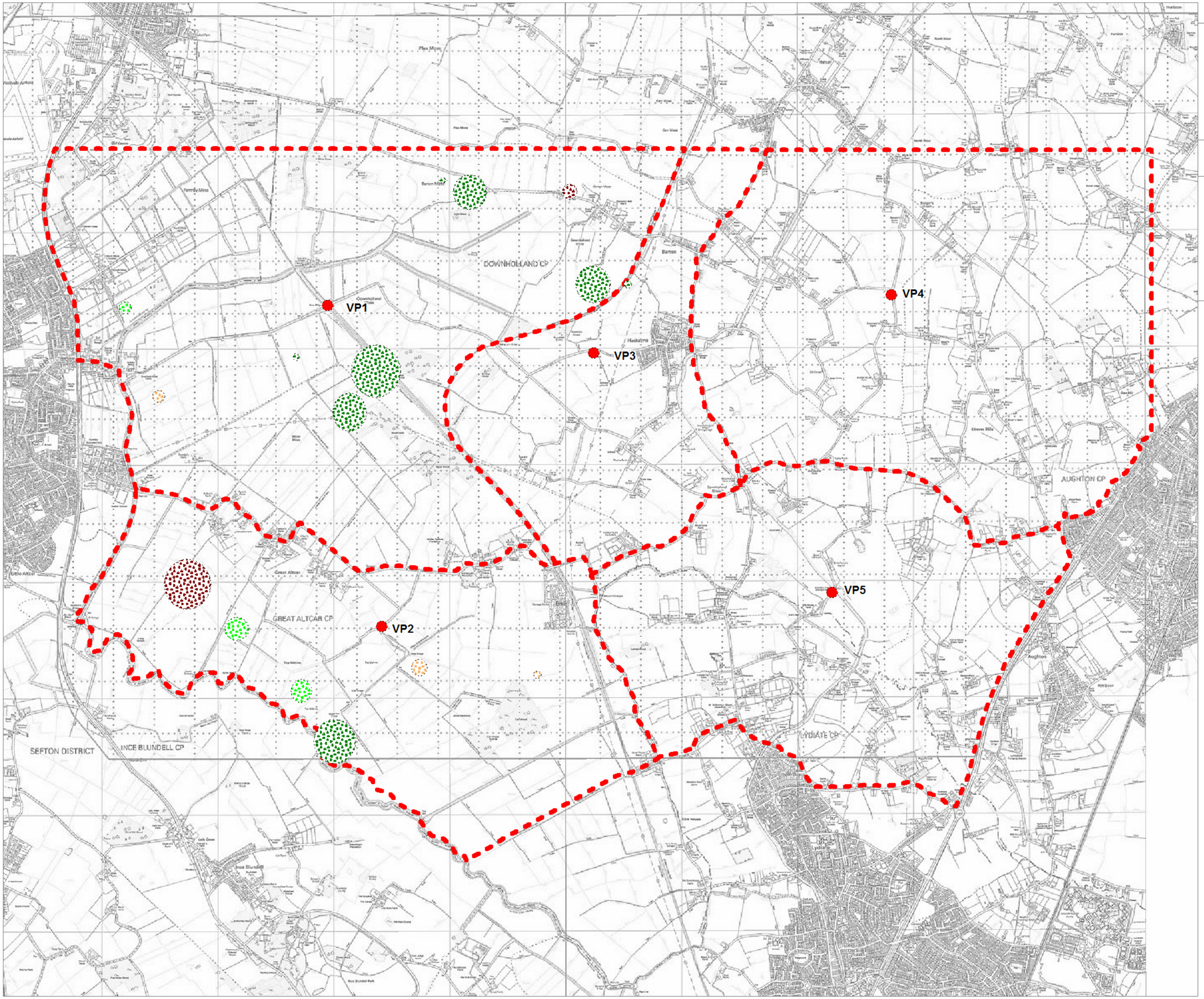
SW: SD 300 050
SE: SD 400 050
NE: SD 400 100

Scale: Not to scale.

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# Distribution of Pink-footed geese (Anser brachyrhynchus) in relation to agri-environment.

January 2014

Map Ref:
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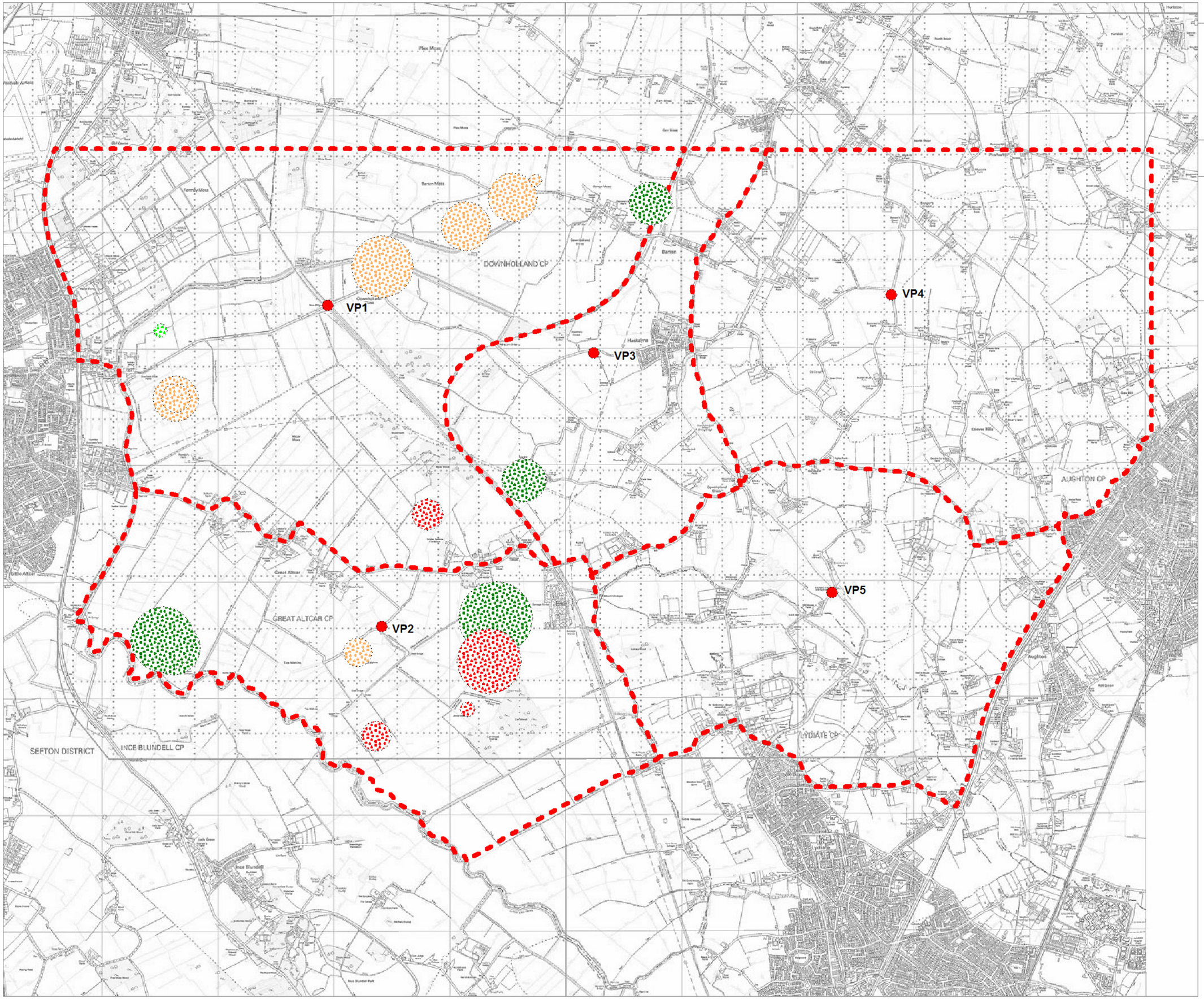
SE: SD 400 050
NE: SD 400 100

Scale: Not to scale.

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# Distribution of Pink-footed geese (Anser brachyrhynchus) in relation to agri-environment.

February 2014

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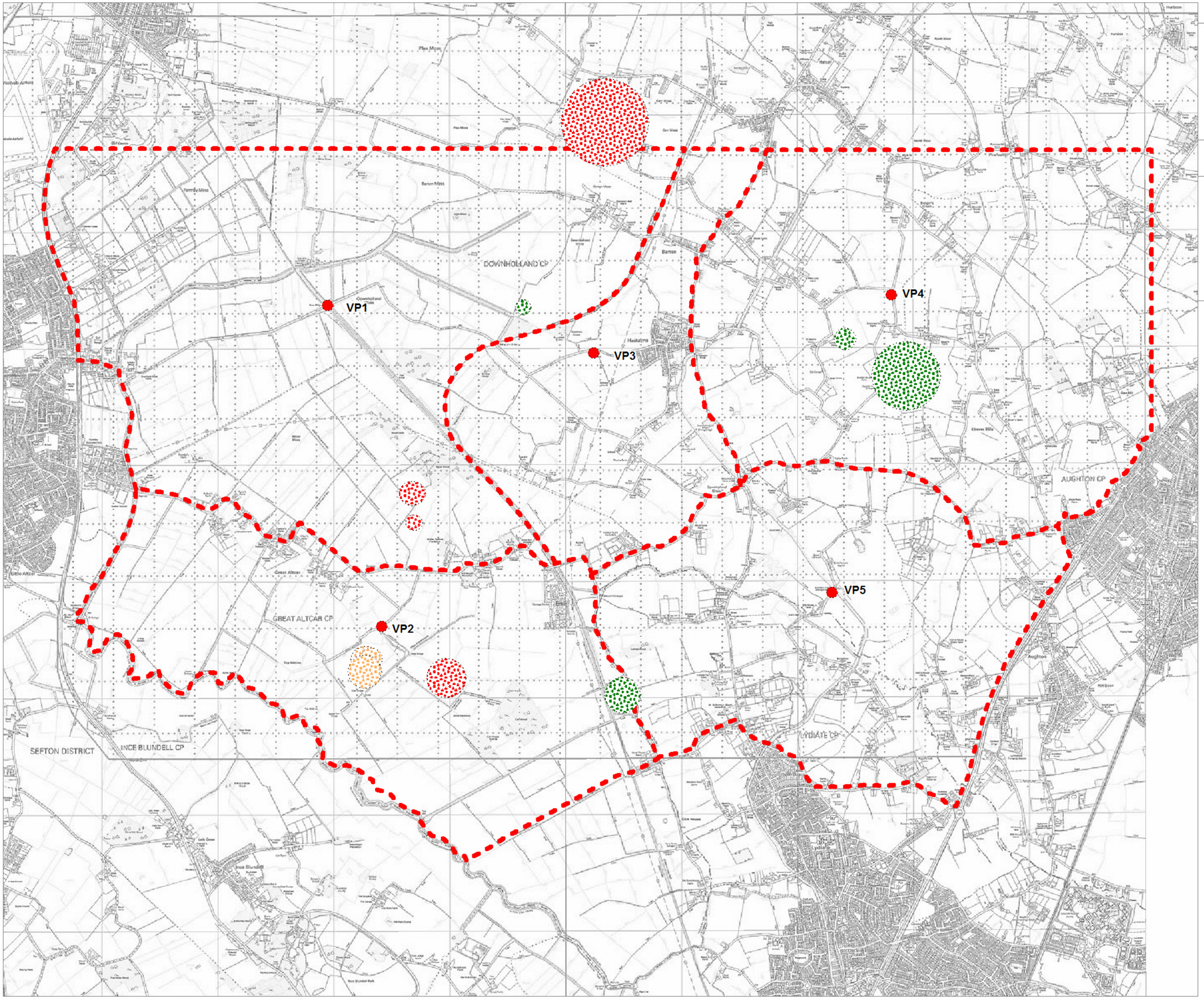


**Key:**

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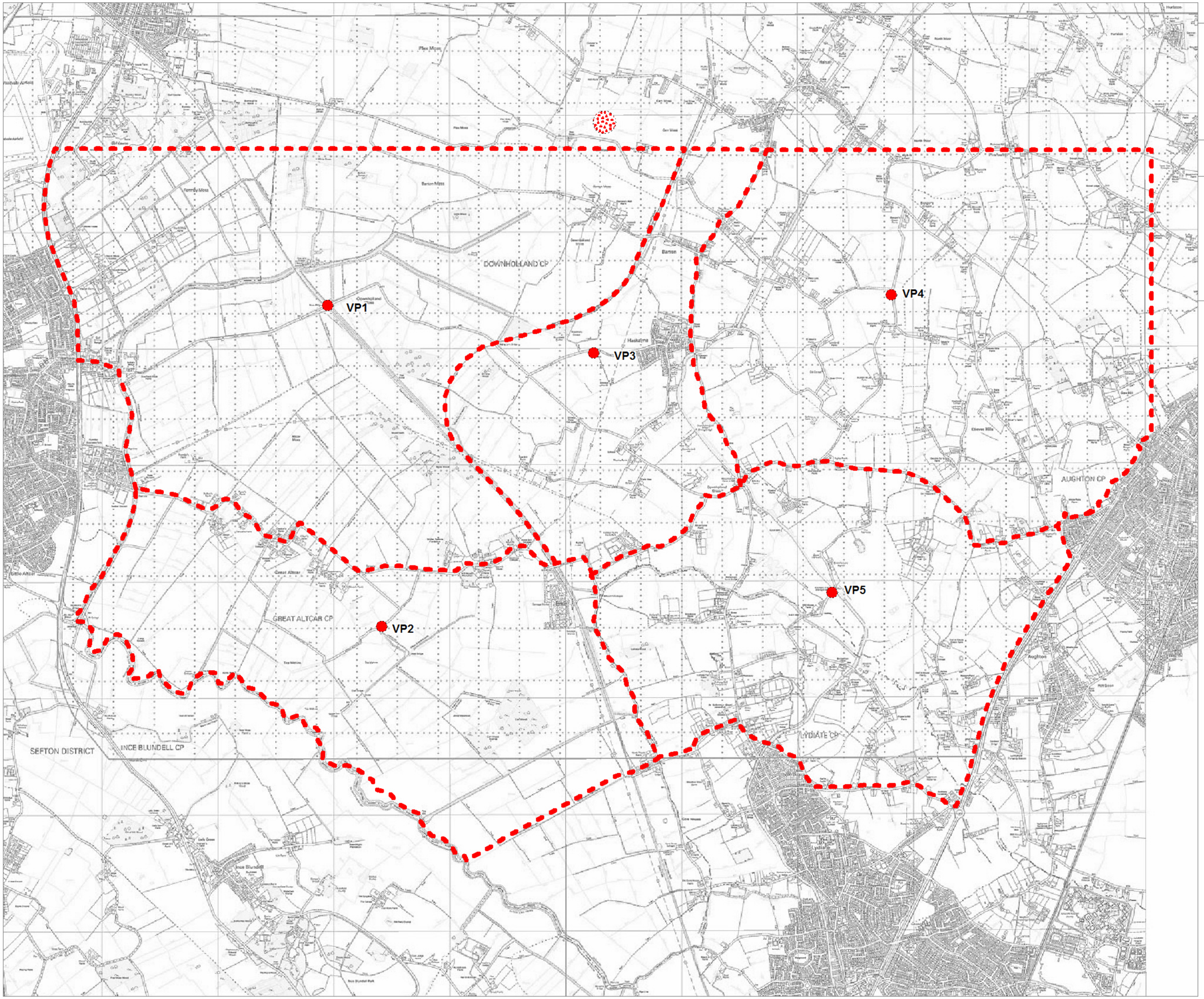


Downholland Moss.

# Distribution of Pink-footed geese (Anser brachyrhynchus) in relation to agri-environment.

March 2014

Map Ref:
NW: SD 300 100
SW: SD 300 050
SE: SD 400 050
NE: SD 400 100

Scale: Not to scale.

**Key:**

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