

Monitoring Survey for the Nail Fungus, *Poronia punctata*, in the New Forest



Hampshire & Isle of Wight Wildlife Trust
Working on behalf of the New Forest National Park Authority

Report produced by Sarah Bignell & Debbie King



Hampshire & Isle of Wight
Wildlife Trust
Protecting wildlife. Inspiring people.



Executive Summary

Hampshire & Isle of Wight Wildlife Trust, working on behalf of the New Forest National Park Authority, conducted a monitoring survey of the rare Nail fungus, *Poronia punctata*.

The survey aimed to identify the current status and distribution of the fungus in the New Forest, the UK stronghold for the species, and to update the surveys conducted by John Poland in 2003-04.

Surveys were carried out between October 2010 and January 2011, over which time 7 transects were visited up to 3 times.

The surveys followed the method developed by John Poland to allow a comparison between the two surveys. Observations were made on the total number of dung piles, number of dung piles with *Poronia*, abundance and size of fruiting bodies, condition and structure of the dung pile and the height of the surrounding vegetation. This allowed links between the state of the dung pile and habitat type to be made in relation to the abundance of *Poronia*.

The results of the survey indicate that *Poronia* is thriving in the New Forest, with more records and a wider distribution than the previous survey.

No changes to site management or species protection are recommended.

Regular surveying is required to monitor the occurrence and distribution of the fungus, to ensure its sustained presence in the New Forest.

Acknowledgements

The Hampshire & Isle of Wight Wildlife Trust would like to thank all the volunteers who took part in the survey; Sara Cadbury, Ginnie Copsey, Tara Dempsey, Pauline Higgins, Jonathan Jackson, Julia Noble, Martin Noble, Mary Parker, Clare Rand, Martin Rand, Helen Rawlinson, Richard Reeves, Jenny Thomas, Mike Waterman and Maggie Westoby.

Contents

1	Introduction	4
2	Methodology	6
2.1	Survey Sites	6
2.2	Fungus Recording	6
2.3	Habitat Types	7
2.4	Volunteers	7
3	Results	8
3.1	Poronia distribution	8
3.2	Fruiting body number and size	10
3.3	Status of dung piles	10
3.4	Vegetation height and type	11
4	Comparison with Previous Survey	13
4.1	Poronia distribution	13
4.2	Fruiting body number and size	14
4.3	Status of dung piles	14
4.4	Vegetation height	15
5	Conclusions	16
6	Recommendations	18
6.1	Management and Protection	18
6.2	Survey and Monitoring	18
7	References	19
8	Appendix	20
8.1	Survey Dates	20
8.2	Grid References of Poronia supporting dung piles	21

1 Introduction

The Nail fungus, *Poronia punctata*, is possibly the rarest fungus in Europe; as such it is classified as endangered in the UK, as indeterminate on the IUCN Red Data List (UK Steering Group 1995) and is a UK Biodiversity Action Plan (UKBAP) priority species. It is also listed under Section 41 'Species of principal importance in England' of the Natural Environment & Rural Communities (NERC) Act 2006.

There is very limited distribution of the fungus in the UK. The current stronghold is in the New Forest, along with records from 6 sites in Dorset, the greatest abundances being found at Hartland Moor NNR and Stoborough Heath SSSI where the fungus was re-discovered in 1999 after not being present in the county for 16 years (Cox *et al.* 2005). There is also a long established population at Newborough Warren NNR on Anglesey (Poland pers. comm. 2011). *Poronia* occurred on Eelmoor Marsh SSSI in Farnborough, Hampshire from 1997 to 2000 while Przewalski's horses were grazing the area (Poland 2004) and has recently been recorded again on the site (Poland pers. comm. 2011).

It is the only species of Nail fungus found in the UK, another species, *Poronia erici* used to be found in Norfolk but has been classified as extinct since 1933 (BMS), although sightings of the fungus were recorded in 2010 (Poland pers. comm. 2011). The fungus has undergone a marked decline in range, with records of the fungus in 16 vice-counties between 1810 and 1915, to only 6 vice-counties between 1960 and 2005 (JNCC 2010).

Poronia, an ascomycete fungus, is distinct from other species of fungus. It has a roughly circular upper disc which is off-white in colour with tiny black pores and a dark brown, cylindrical stipe which is attached to the dung. The fungus can be found at any time of year, but it is most often observed from September to February (Poland 2004). There are some discrepancies over the lifecycle of the fungus but it is believed that the spores of the fungus land on vegetation and are ingested by grazing horses and ponies. The spores are then deposited in the dung of the animal and begin to germinate (Poland 2004; ARKive).

It is a very specialized species, only being found on the dung of horses and ponies that have been feeding on unimproved acidic grassland and heath vegetation, highlighting why it is found in the New Forest. Although there are no records of the fungus occurring in similar habitat types in the UK, such as on Exmoor and Dartmoor (Poland 2004).

There a number of causes for the decline in *Poronia* distribution. These are the cessation of grazing by ponies on rough grassland and heath, reduced areas of unimproved acid grassland and heaths, and the increased use of veterinary products and agrochemicals (JNCC 2010).

A survey was undertaken in 2003-04 by John Poland to develop a suitable, repeatable survey method, and assess the status of the fungus in the New Forest. This study found that vegetation type was a crucial factor in the distribution of *Poronia*. The fungus was found primarily in heathland habitats from damp H2c *Molinia* sub-community dry heath to typical H3 humid heath and 'dry' M16 wet heath, with the most favoured being H3 humid heath. One *Poronia* supporting dung pile was found in damp U3 *Agrostis curtisii* acid

grassland. Vegetation height and composition was also important to *Poronia* distribution with 63% of dung piles supporting *Poronia* being found amongst vegetation between 10 and 15 cm tall. The study concluded that no changes in site management or species protection were required.

This study is to assess the current status of *Poronia punctata* in the New Forest and make comparisons, where appropriate, with the findings of the previous survey.

2 Methodology

The survey methodology was based on that designed by John Poland during the surveys conducted in 2003-04. This was to allow comparisons to be made between the previous and current study, and to make an assessment on the current status of the fungus.

2.1 Survey Sites

The original study comprised 7 transect routes distributed at various locations across the forest, covering a range of habitat types. This study used the same transect routes to allow a comparison. The transect locations are shown in Map 1 and given in Table 1. Volunteers were recruited to undertake the surveys, and at least 2 people were assigned to each transect.

Table 1. Transect Routes

Transect	Route	Length (Km)
1	The Lamb, Nomansland to The Royal Oak, Fritham	4.6
2	The Fighting Cocks, Godshill to The Royal Oak, Fritham	6.7
3	The Turf Cutters, Hatchet Pond to East End Chapel	6.3
4	The Beaulieu Road Inn to The Bold Forester, Marchwood	4.3
5	Rising Sun, Wootton to Sway	2.9
6	Red Rover, Plaitford to Sir John Barleycorn, Cadnam	8
7	Happy Cheese, Ashurst to Mailmans Arms, Lyndhurst	6.3

2.2 Fungus Recording

Volunteers walked their assigned transect examining dung piles for *Poronia* within 2m either side of the path. Routes were walked to one side of the designated paths/tracks to avoid counting dung piles from domestic horses which are highly unlikely to support *Poronia* due to their diet and treatment with veterinary medicines. All dung piles were counted, not just those supporting *Poronia*, to allow a percentage occurrence to be calculated. When a dung pile with *Poronia* was encountered a number of criteria were recorded:

- Total number of fruiting bodies
- Maximum diameter of fruiting body (in mm)
- Condition and structure of dung pile supporting *Poronia*
- Maximum vegetation height in the 2m x 2m area surrounding the dung pile

Condition of dung piles was based on the moisture content of the dung, being categorized as either normal (relatively recent, still retaining some moisture, dark brown in colour), saturated (retaining a lot of water after rain or partially submerged on waterlogged ground) or desiccated (bleached grey in colour and dried due to exposure to sunlight). The structure of the dung piles was classified as either normal (firm, intact

boluses), disturbed (broken up due to minor trampling), collapsing (heavily weathered by rain/trampling and loss of original shape) or flat (fully collapsed and loss of shape).

The fungi locations were recorded on 1:10,000 Ordnance Survey maps, and a grid reference taken using a GPS when possible. Grid references for *Poronia* locations are given in the appendix.

Volunteers were asked to conduct surveys 3 times between October 2010 and January 2011. Some transects were only surveyed twice due to adverse weather conditions throughout December (heavy snow and icy conditions). Survey dates are given in the appendix.

2.3 *Habitat Types*

Surveyors recorded the various habitat types along the transect routes. They were asked to identify where the changes in habitat occurred and record it on the survey maps. Nine broad habitat types were identified to categorise the changing landscape along the routes, based on the John Poland survey. These were broadleaved woodland, coniferous woodland, mixed woodland, acid grassland, intensively grazed pasture, wet heath, dry heath, valley mire and hard standing. These categories were chosen as they are clearly distinguishable from other habitats and they could be identified by all volunteers, including those who had limited ecological survey experience. Brief descriptions of each habitat type were also provided for reference in the field.

The habitat types were mapped on GIS (MapInfo) using a combination of surveyor records and HBIC broad habitat data files to identify if there was a link between the location of *Poronia* and the habitat type.

2.4 *Volunteers*

Volunteers were recruited by Hampshire & Isle of Wight Wildlife Trust to undertake the surveys. All volunteers attended a training day before beginning the surveys which explained the survey technique and included a practical session to practice ID of the fungus and implementing the survey methodology. All volunteers were provided with the relevant materials and equipment to undertake the surveys; this included a survey method sheet, maps, recording forms, risk assessment and hi-vis jackets, where appropriate.

3 Results

3.1 *Poronia* distribution

Poronia was found on 6 of the 7 transects, with a total of 152 dung piles supporting the fungus. Some fruiting bodies had a secondary infection but it is unknown what affect, if any, this will have on the fungus. The distribution of *Poronia* and habitat types found along the transects are shown in Maps 2 to 8.

Transect 1: Nomansland to Fritham

Only 3 dung piles supporting *Poronia* were found on this transect, all of which were on areas of dry heath.

Visit	Total no. of dung piles	Dung piles supporting <i>Poronia</i>	% Occurrence
1	102	1	0.98
2	133	2	1.50
Total	235	3	1.28

Transect 2: Godshill to Fritham

There were a number of *Poronia* supporting dung piles along the transect; 34 were found on acid grassland, 4 on heathland, 5 were amongst bracken and the remaining 3 were on the edge of broadleaved woodland.

Visit	Total no. of dung piles	Dung piles supporting <i>Poronia</i>	% Occurrence
1	415	11	2.65
2	570	24	4.21
3	446	11	2.47
Total	1431	46	3.21

Transect 3: Hatchet Pond to East End

The majority of the *Poronia* supporting dung piles (80%) were found on dry heath, with the remaining 20% being located in areas of wet heath, acid grassland or scrub.

Visit	Total no. of dung piles	Dung piles supporting <i>Poronia</i>	% Occurrence
1	333	32	9.61
2	385	2	0.52
Total	718	34	4.74

Transect 4: Beaulieu Road Station to Marchwood

Twelve of the dung piles supporting *Poronia* were found on dry heath and 5 on wet heath. The remaining 6 were in areas of bracken or on the edge of coniferous woodland.

Visit	Total no. of dung piles	Dung piles supporting <i>Poronia</i>	% Occurrence
1	255	11	4.31
2	295	5	1.69
3	226	7	3.10
Total	776	23	2.96

Transect 5: Wootton to Sway

No *Poronia* supporting dung piles were found during the 3 survey visits.

Visit	Total no. of dung piles	Dung piles supporting <i>Poronia</i>	% Occurrence
1	122	0	0
2	92	0	0
3	150	0	0
Total	364	0	0

Transect 6: Plaitford to Cadnam

Dry heath accounted for 30% of *Poronia* supporting dung piles, 38% were on wet heath and 24% on acid grassland. The remaining dung piles (8%) were found in areas of scrub. Eight dung piles had fruiting bodies with a secondary infection. When infected fruiting bodies were found, it did not always affect all the fruiting bodies on the dung pile.

Visit	Total no. of dung piles	Dung piles supporting <i>Poronia</i>	% Occurrence
1	918	22	2.40
2	978	13	1.33
3	1060	7	0.66
Total	2956	42	1.42

Transect 7: Ashurst to Lyndhurst

Three of the 4 *Poronia* supporting dung piles were located on wet heath. The remaining dung pile was found on acid grassland. Three of the dung piles had some fruiting bodies with a secondary infection, but not all the fruiting bodies on the dung pile were infected.

Visit	Total no. of dung piles	Dung piles supporting <i>Poronia</i>	% Occurrence
1	475	1	0.21
2	755	3	0.40
Total	1230	4	0.33

3.2 Fruiting body number and size

The number of fruiting bodies found per dung pile varied considerably, with 83% being in the range of 1 to 50 fruiting bodies, as illustrated in Table 2. However, 2 of the dung piles were recorded as having 300 or more fruiting bodies.

Table 2. Number of fruiting bodies per dung pile

Number of fruiting bodies per dung pile	Number of dung piles	%
1 – 5	22	16.79
6 – 10	18	13.74
11 – 20	28	21.37
21 – 30	17	12.98
31 – 50	24	18.32
51 – 100	12	9.16
101 – 150	3	2.29
151 – 200	5	3.82
201+	2	1.53

The majority of dung piles supported *Poronia* with a maximum fruiting body diameter of 3 to 4 mm, with 98.4% having a diameter between 1 and 8 mm, as demonstrated in Table 3.

Table 3. Maximum diameter of fruiting body per dung pile

Max. fruiting body diameter per dung pile (mm)	Number of dung piles	%
1 – 2	34	27.2
3 – 4	49	39.2
5 – 6	30	24.0
7 – 8	10	8.0
9 – 10	1	0.8
11 – 12	0	0
13 – 14	1	0.8

3.3 Status of dung piles

Poronia was most commonly found on “normal” dung piles, as shown in Table 4. Normal dung piles are those that are relatively recent, still retain some moisture and are dark brown in colour.

Table 4. Moisture content of dung piles

Moisture Content	Number of dung piles	%
Normal	93	70.45
Desiccated	31	23.48
Saturated	8	6.06

The structure of the dung pile does not appear to be a critical feature of where *Poronia* is found, indicated in Table 5. Disturbed dung piles were recorded as most often having the fungus, but normal and collapsing dung piles were also frequently found to have fruiting bodies.

Table 5. Structure of dung piles

Structure	Number of dung piles	%
Normal	39	29.55
Disturbed	54	40.91
Collapsing	32	24.24
Flat	7	5.30

3.4 Vegetation height and type

The majority of *Poronia* supporting dung piles were in vegetation that was less than 6cm high, as shown in Table 6. However, dung piles with *Poronia* were found in a range of vegetation heights, the highest recorded being 2.5m.

Table 6. Vegetation height

Vegetation height (cm)	Number of samples	%
0 – 5	30	24.0
6 – 10	18	14.4
11 – 15	10	8.0
16 – 20	7	5.6
21 – 25	4	3.2
25 – 30	12	9.6
31 – 40	14	11.2
41 – 50	12	9.6
51 – 100	9	7.2
101 – 150	3	2.4
151 – 200	3	2.4
201+	3	2.4

The majority of *Poronia* was found in heathland and acid grassland habitats, accumulating to 86.2% of the records of *Poronia* supporting dung piles, as illustrated in Figure 1. There were no instances of dung piles with *Poronia* in valley mire habitats, probably because these habitats were too wet to support the fungus, and on hard standing, where there are limited dung piles and which are soon broken up by vehicles.

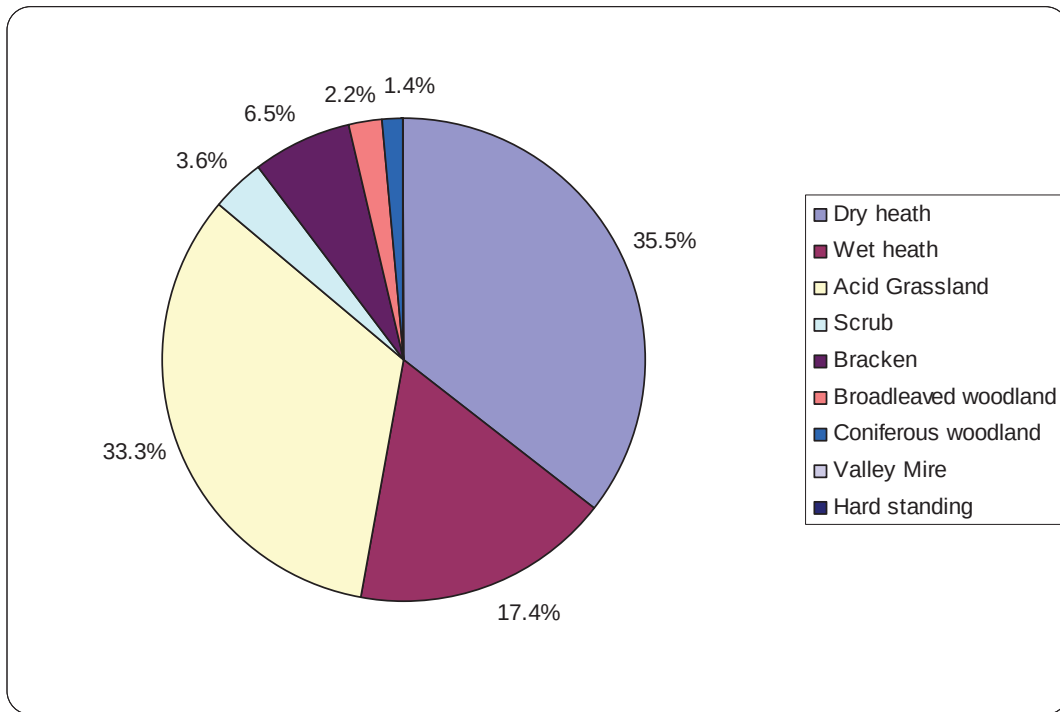


Figure 1. Habitat types surrounding *Poronia* supporting dung piles

4 Comparison with Previous Survey

Direct comparisons can be made between the current study and the previous survey conducted by John Poland.

4.1 *Poronia* distribution

Poronia was found to be more numerous and widely distributed during this survey than was recorded during the previous survey, although there were still no records of the fungus on the transect between Wootton and Sway (Transect 5). Maps 9 & 10 illustrate the previous and current distributions of *Poronia*. Table 7 and Figure 2 demonstrate the differences in the abundance and distribution of the fungus between the two surveys.

Table 7. Comparison of *Poronia* occurrence across the transects between 2003 & 2010

Transect	Occurrence 2003-04		Occurrence 2010-11	
	Number	%	Number	%
1 – Nomansland to Fritham	19	3	3	1.28
2 – Godshill to Fritham	0	0	46	3.21
3 – Hatchet Pond to East End	12	2	34	4.74
4 – Beaulieu Road Station to Marchwood	5	1	23	2.96
5 – Wootton to Sway	0	0	0	0
6 – Plaitford to Cadnam	1	0.16	42	1.42
7 – Ashurst to Lyndhurst	3	0.37	4	0.33

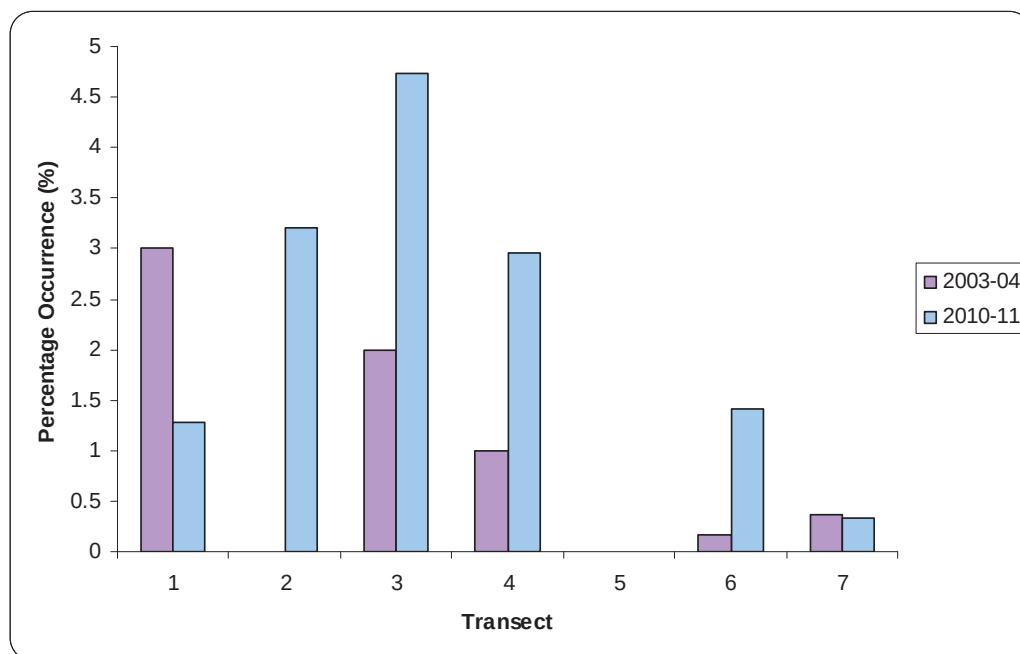


Figure 2. Percentage occurrence of *Poronia* on each transect for 2003 & 2010

4.2 Fruiting body number and size

The current survey indicates a larger variation in the number of fruiting bodies found on the dung piles compared to the 2003 survey, as shown in Table 8. However, both surveys recorded the majority of dung piles having between 1 and 50 fruiting bodies, 97.5% in 2003 and 83% in 2010.

Table 8. Number of fruiting bodies per dung pile

No. of fruiting bodies per dung pile	2003-04 (%)	2010-11 (%)
1 – 5	42.5	17
6 – 10	15	14
11 – 20	15	21
21 – 30	12.5	13
31 – 50	12.5	18
51 – 100	0	9
101 – 150	2.5	2
151 – 200	0	4
201 +	0	2

The maximum fruiting body diameter per dung pile recorded most frequently for both surveys was in the range of 3 to 4mm, as demonstrated in Table 9.

Table 9. Maximum diameter of fruiting body per dung pile

Max. fruiting body diameter (mm)	2003-04 (%)	2010-11 (%)
1 – 2	10	27
3 – 4	37.5	39
5 – 6	22.5	24
7 – 8	5	8
9 – 10	22.5	1
11 – 12	2.5	0
13 - 14	0	1

4.3 Status of dung piles

Both surveys identified that dung piles with “normal” moisture content were most utilized by *Poronia*, as shown in Table 10.

Table 10. Moisture content of dung piles

Moisture content	2003-04 (%)	2010-11 (%)
Normal	65	70
Desiccated	33	23
Saturated	3	6

Both surveys recorded that *Poronia* was found on a range of dung pile structures, and therefore it is not a critical feature to the development of the fungus, as indicated in Table 11.

Table 11. Structure of dung pile

Structure	2003-04 (%)	2010-11 (%)
Normal	43	30
Disturbed	20	41
Collapsing	18	24
Flat	20	5

4.4 Vegetation height

The distribution of vegetation heights around the *Poronia* supporting dung piles varies between the current and previous surveys. The 2003 survey recorded vegetation in the range of 11 to 15 cm to be where most *Poronia* was found, whereas the current survey recorded 0 to 5 cm, plus a greater range of vegetation heights, up to 2.5m. This is shown in Table 12.

Table 12. Maximum vegetation height

Vegetation height (cm)	2003-04 (%)	2010-11 (%)
0 – 5	3	24
6 – 10	8	14
11 – 15	63	8
16 – 20	5	6
21 – 25	10	3
26 – 30	13	10
31 – 40	0	11
41 – 50	0	10
51 - 100	0	7
101 – 150	0	2
151 - 200	0	2
200 +	0	2

5 Conclusions

This study has indicated that *Poronia* is persisting in the New Forest, with a 380% increase in the number of dung piles found supporting the fungus from 2003 to 2010. It is not clear why there has been an increase in the number of fungi recorded. Possible reasons could include more suitable weather conditions from the last survey, increased grazing on the forest or a combination of factors.

The conclusion by Poland (2004) that vegetation type is the most crucial factor in the distribution of *Poronia* is supported by the findings of this study. The majority of *Poronia* supporting dung piles (86.2%) were found on heath and acid grassland habitats. Poland (2004) only found one dung pile with *Poronia* in open acid grassland habitats, but it is meant to be a favoured habitat of the species (UK Steering Group 1995) which is consistent with the findings of this study and Cox *et al.* (2005) who found *Poronia* on 5 out of 6 sites in Dorset comprising acid grassland habitats. The presence of the fungus on dung piles on heath and acid grassland vegetation is to be expected as it is known that the fungus is only found on the dung of horses and ponies that feed in these habitat types. It was not found in consistently wet or waterlogged habitats, indicating the requirement of damp but not wet conditions by the fungus to develop.

Dung piles in short vegetation (0 to 15cm) were the most suitable for *Poronia*, suggesting that semi-open habitats are an important factor. This is supported by the findings of Poland (2004) who recorded 63% of *Poronia* in vegetation with a maximum height of 11 to 15 cm and Cox (1999) who recorded 70% of *Poronia* to be in a maximum vegetation height of 5 to 15 cm. One possible reason for this is that these habitats are more species rich, particularly in heathland habitats, and are therefore likely to be subjected to the most grazing.

Structure of the dung pile does not appear to have an affect on the presence of *Poronia*, but the study indicates that the moisture content of the bolus is more significant, with most fungi being found on those in "normal" condition.

There is considerable variation in the number and maximum diameter of fruiting bodies recorded on each dung pile, but there are no clear factors which influence the number and size of the fruiting bodies. The most likely cause for the variation is the timing of the survey in relation to the development of the fungi, and not an external factor.

The extended periods of very cold weather may have had an affect on the presence of *Poronia* in December and January. Although the fungus is usually present at these times and able to cope with cold, frosty weather, as observed by Cox (2005) who found fruiting bodies with no visible signs of damage on dung piles that were still encrusted in frost, the conditions were more extreme than is typically expected during these months, with 2 periods of heavy snow and prolonged periods of ice and hard frosts.

Some of the fruiting bodies were also identified as suffering from a secondary infection. This was present on the “disc” area of the fungus so may affect the ability of the fungus to produce and release spores. The secondary infection was identified as being caused by a fungus but further research is required to investigate the affect of the infection on *Poronia*, as it is unknown if it will have an adverse influence on the fungus, and to obtain information on the infecting fungus such as species identification, method of transmission and if it is specifically targeting *Poronia* or affects a range of fungus species.

6 Recommendations

6.1 *Management and Protection*

Poronia occurrence and distribution is increasing in the New Forest, with this survey demonstrating an almost 4-fold improvement in the number of dung piles supporting the fungus since the last survey in 2003-04.

The current management of the unique wet heath and acid grassland habitats is providing suitable conditions for *Poronia* to persist. The level of grazing by forest ponies is enabling the spread of the fungus in to areas where it was not recorded previously such as on transect 2 between Godshill and Fritham.

Based on this evidence, the current management of sites is proving effective for the conservation of the species and does not need to be changed but continued into the future.

6.2 *Survey and Monitoring*

Continued monitoring of the fungus needs to be undertaken to establish if the increased occurrence recorded during this study is because of an overall increasing trend in the number and distribution of *Poronia*.

The sustained presence of *Poronia* in the New Forest is important as it is the stronghold for the fungus, therefore regular monitoring will quickly highlight any changes in its distribution and occurrence, and identify if any alterations to the management of sites is required.

Further research into the secondary infection should also be considered, as its distribution and affect on *Poronia* is unknown.

7 References

ARKive (Accessed 02/02/2011) www.arkive.org/nail-fungus/poronia-punctata

British Mycological Society (BMS)
www.fieldmycology.net/Download/RDL_of_Threatened_British_Fungi.pdf

British Mycological Society (BMS) Database (2009) Records of *Poronia punctata*
(Accessed 01/02/2011)
www.fieldmycology.net/GBCHKLST/gbsyns.asp?intGBNum=3320

JNCC UK priority species pages – Version 2 (2010) UK Priority Species data collation.
Poronia punctata version 2 updated on 15/12/2010
www.jncc.gov.uk/speciespages/528.pdf

Natural Environment & Rural Communities (NERC) Act 2006. Section 41: Species of
Principal Importance in England
[http://www.naturalengland.gov.uk/Images/section%2041%20nerc%20act%20-%20species%20\(Aug%202010\)_tcm6-21417.doc](http://www.naturalengland.gov.uk/Images/section%2041%20nerc%20act%20-%20species%20(Aug%202010)_tcm6-21417.doc)

UK Biodiversity Action Plan www.ukbap.org.uk/NewPriorityList

UK Steering Group (1995) Biodiversity: The UK Steering Group Report – Volume II:
Action Plans. www.ukbap.org.uk/Library/Tranche1_Ann_f.pdf

Cox, J.H.S. (1999) Survey of Nail Fungus *Poronia punctata* on Hartland Moor NNR/SSSI
and Stoborough Heath NNR, Dorset, in 1999. English Nature (Dorset Team)

Cox, J.H.S., Pickess, B.P. & Peters, A. (2005) Nail Fungus *Poronia punctata* in Dorset,
1999 to 2005: Population Changes and Ecological Observations. Proceedings of the
Dorset Natural History and Archaeological Society **127**: 95 – 99

Poland, J. (2004) Survey of Nail Fungus *Poronia punctata* in the New Forest during
2003-4. A report produced for the Hampshire & Isle of Wight Wildlife Trust.

8 Appendix

8.1 Survey Dates

Transect 1

Visit 1 8 December 2010
Visit 2 20 January 2011

Transect 2

Visit 1 9 – 10 October 2010
Visit 2 31 October 2010
Visit 3 14 & 21 November 2010

Transect 3

Visit 1 9 October 2010 (Hatchet Pond to B3054))
6 November 2010 (B3054 to Lynton House)
29 December 2010 (Lynton House to East End Chapel)
Visit 2 29 January 2011

Transect 4

Visit 1 7 October 2010
Visit 2 1 November 2010
Visit 3 12 December 2010

Transect 5

Visit 1 29 October 2010
Visit 2 29 November 2010
Visit 3 21 January 2011

Transect 6

Visit 1 13 & 31 October 2010
Visit 2 1 & 24 November 2010
Visit 3 10 December 2010 & 27 January 2011

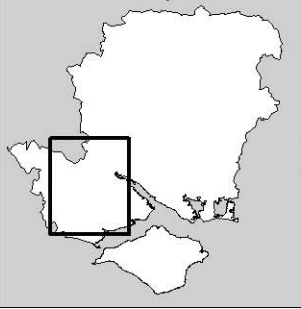
Transect 7

Visit 1 31 December 2010
Visit 2 10 January 2011

8.2 Grid References of Poronia supporting dung piles

Transect	Grid Reference	Transect	Grid Reference	Transect	Grid Reference
1	SU 25076 16120	3	SU 36421 01432	6	SU 28544 16161
1	SU 24711 15718	3	SU 36342 01422	6	SU 29032 15459
1	SU 25123 16229	3	SU 36328 01399	6	SU 28526 16191
		3	SU 36297 01371	6	SU 28539 16150
2	SU 19086 14573	3	SU 36263 01348	6	SU 28925 15524
2	SU 19101 14579	3	SU 36232 01326	6	SU 28941 15507
2	SU 19142 14591	3	SU 36142 01287	6	SU 29110 15454
2	SU 19162 14599	3	SU 36095 01289	6	SU 28565 16205
2	SU 19362 14658	3	SU 36064 01101	6	SU 28595 16075
2	SU 19383 14651	3	SU 36412 01067	6	SU 28605 15905
2	SU 19805 14826	3	SU 36412 01067	6	SU 28915 15535
2	SU 19874 14843	3	SU 36426 01051	6	SU 28935 15535
2	SU 19941 14867	3	SU 36437 00270	6	SU 27874 18868
2	SU 19099 14579	3	SU 36372 00669	6	SU 27936 18777
2	SU 19140 14591	3	SU 36351 00707	6	SU 27952 18757
2	SU 19208 14615	3	SU 36338 00726	6	SU 28026 18725
2	SU 19254 14635	3	SU 36506 00932	6	SU 28047 18667
2	SU 19634 14731	3	SU 36071 01276	6	SU 28048 18645
2	SU 19942 14867	3	SU 36188 01116	6	SU 28026 18564
2	SU 20123 14235			6	SU 28027 18433
2	SU 20228 14161	4	SU 35135 06485	6	SU 28027 18403
2	SU 20255 14153	4	SU 35215 06605	6	SU 28342 17704
2	SU 20274 14148	4	SU 35215 06605	6	SU 28209 17874
2	SU 20364 14165	4	SU 35235 06655	6	SU 28191 17896
2	SU 20390 14156	4	SU 35455 06875	6	SU 28154 17940
2	SU 20416 14160	4	SU 35525 06895	6	SU 28139 17952
2	SU 20439 14160	4	SU 35575 06895	6	SU 28011 18164
2	SU 20586 14148	4	SU 35605 06905	6	SU 27803 18615
2	SU 19074 14570	4	SU 35905 06975	6	SU 27803 18621
2	SU 19103 14583	4	SU 36495 07465	6	SU 27978 18234
2	SU 20147 14223	4	SU 36465 07655	6	SU 27975 18257
2	SU 20174 14196	4	SU 35185 06535	6	SU 27956 18321
2	SU 20365 14160	4	SU 35185 06545	6	SU 27916 18391
2	SU 20472 14149	4	SU 35455 06885	6	SU 27772 18506
2	SU 20522 14150	4	SU 36175 07055	6	SU 28364 17686
2	SU 20557 14146	4	SU 36655 08205	6	SU 27790 18500
2	SU 20574 14146	4	SU 35205 06605	6	SU 28227 17970
		4	SU 35205 06655		
3	SU 36594 01639	4	SU 35505 06905	7	SU 32778 08775
3	SU 36489 01504	4	SU 35955 07055	7	SU 32953 09450
3	SU 36513 01494	4	SU 35955 07055	7	SU 33090 09150
3	SU 36491 01466	4	SU 36055 07055	7	SU 33110 09160
3	SU 36442 01480	4	SU 36435 07805		
3	SU 36441 01452				

Location within county:



Poronia punctata Monitoring Survey 2010

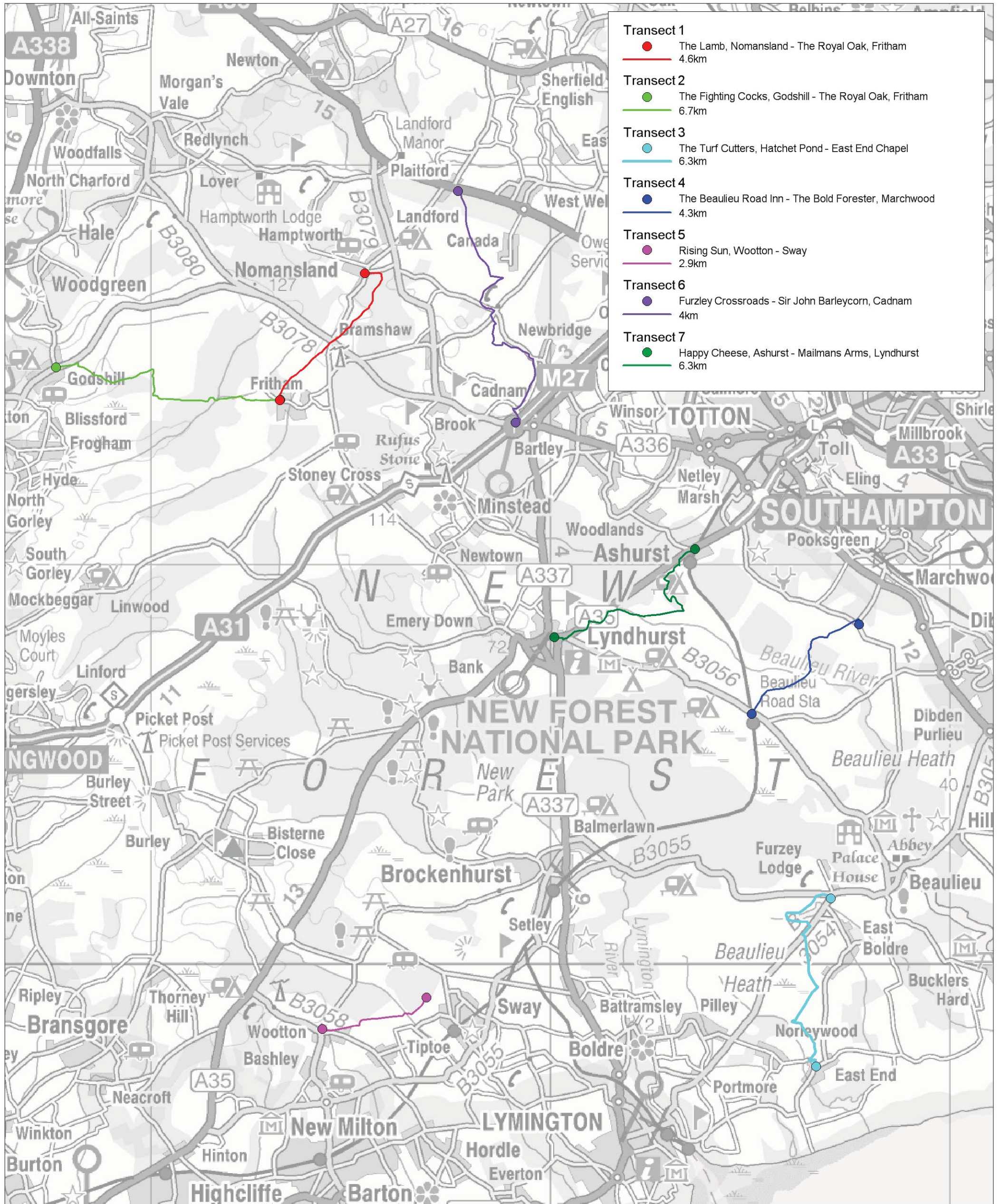
Map 1. Transect Locations

Scale 1:90000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curridge, Hampshire
SO32 2DP



Hampshire &
Isle of Wight



Location within county:



Poronia punctata Monitoring Survey 2010

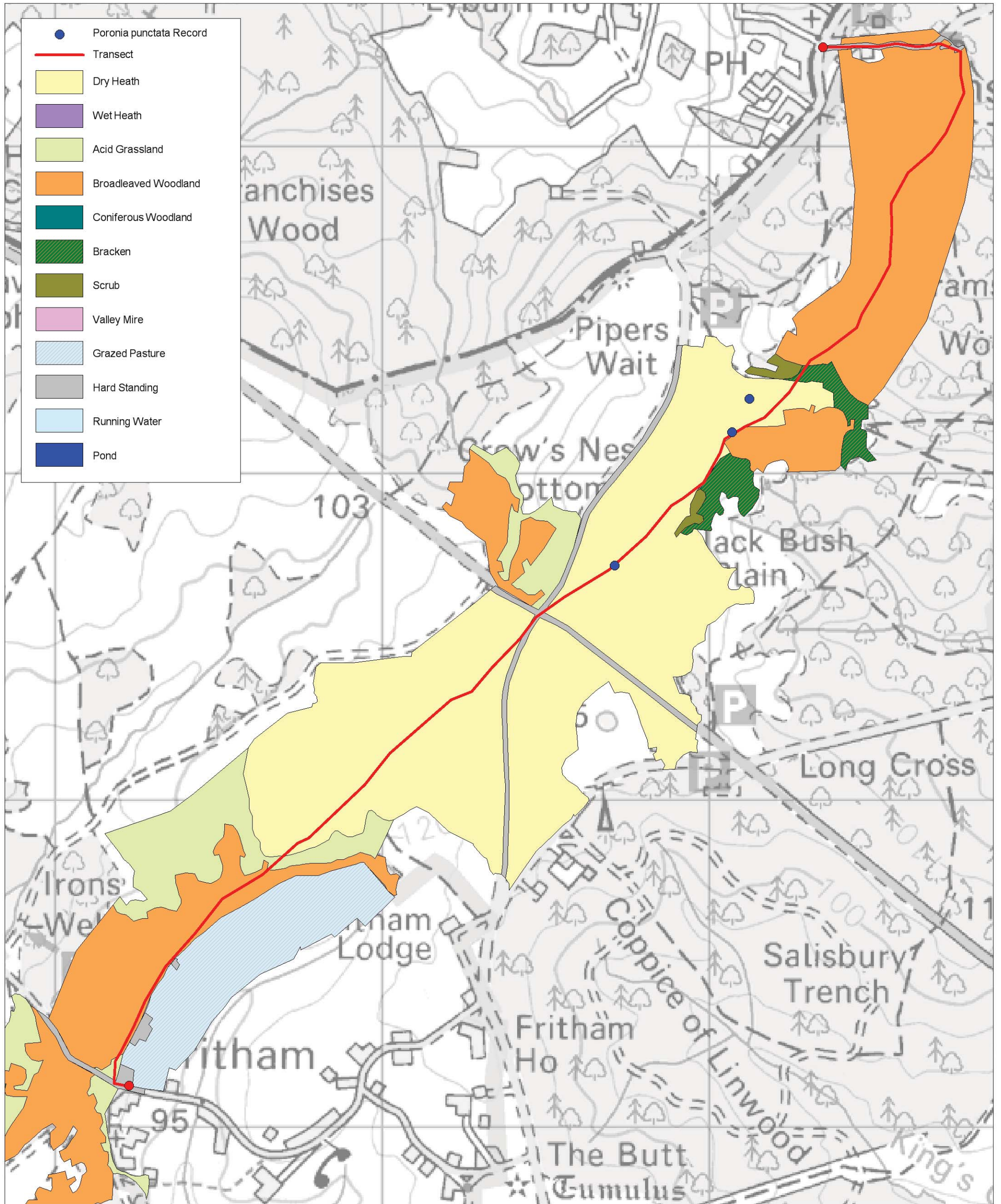
Map 2. Transect 1

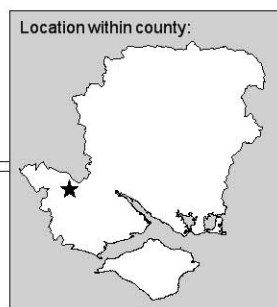
Scale 1:11000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curridge, Hampshire
SO32 2DP



Hampshire &
Isle of Wight



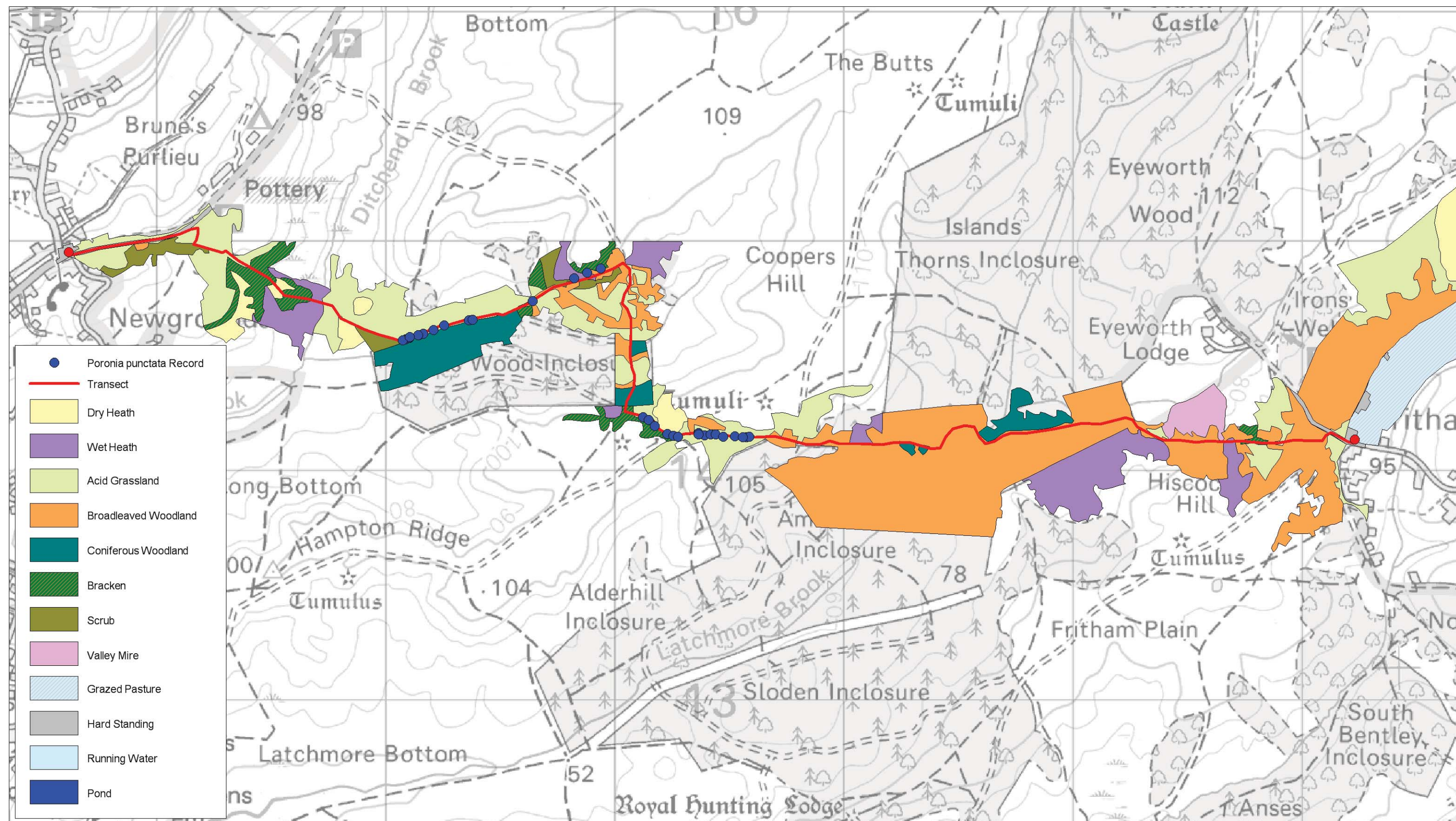


Poronia punctata Monitoring Survey 2010

Map 3. Transect 2

Scale 1:16000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curdridge, Hampshire
SO32 2DP



Location within county:



Poronia punctata Monitoring Survey 2010

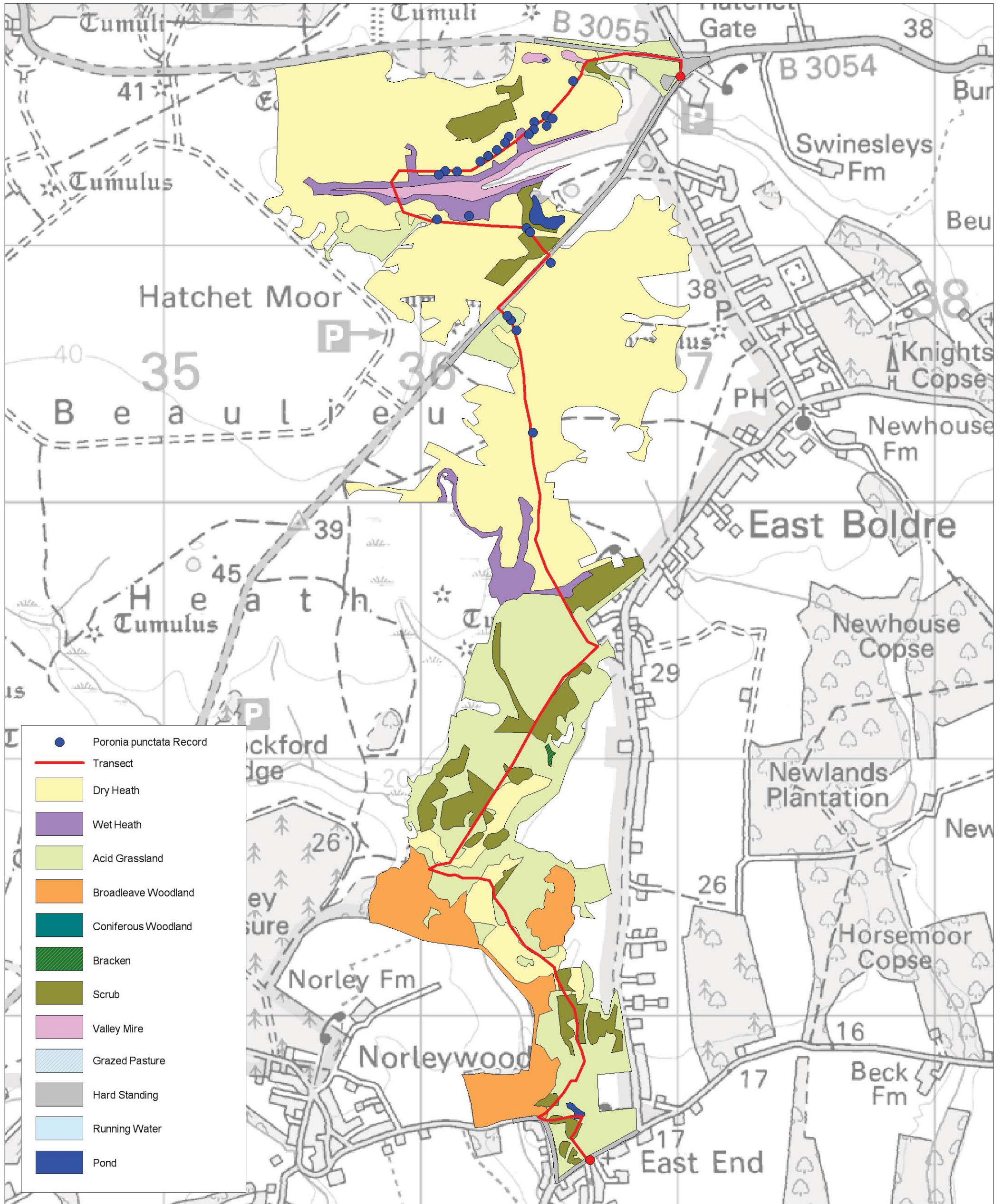
Map 4. Transect 3

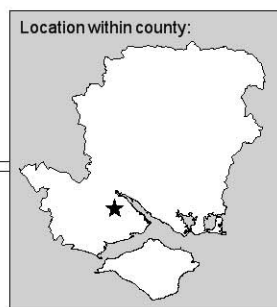
Scale 1:14000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curdridge, Hampshire
SO32 2DP



Hampshire &
Isle of Wight



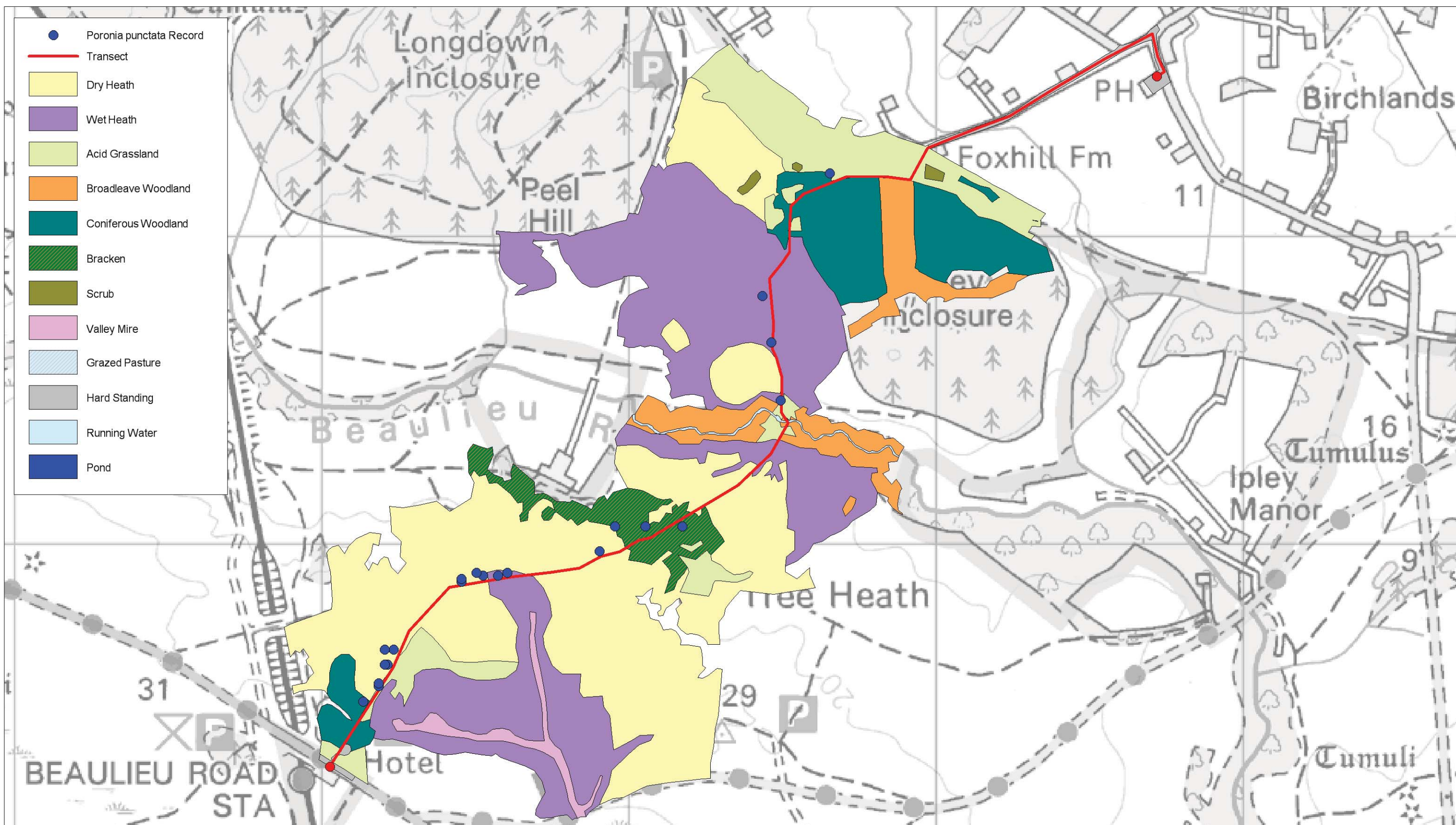


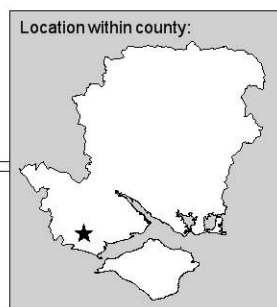
Poronia punctata Monitoring Survey 2010

Map 5. Transect 4

Scale 1:12000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curdridge, Hampshire
SO32 2DP





Poronia punctata Monitoring Survey 2010

Map 6. Transect 5

Scale 1:9000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curdrige, Hampshire
SO32 2DP



Location within county:



Poronia punctata Monitoring Survey 2010

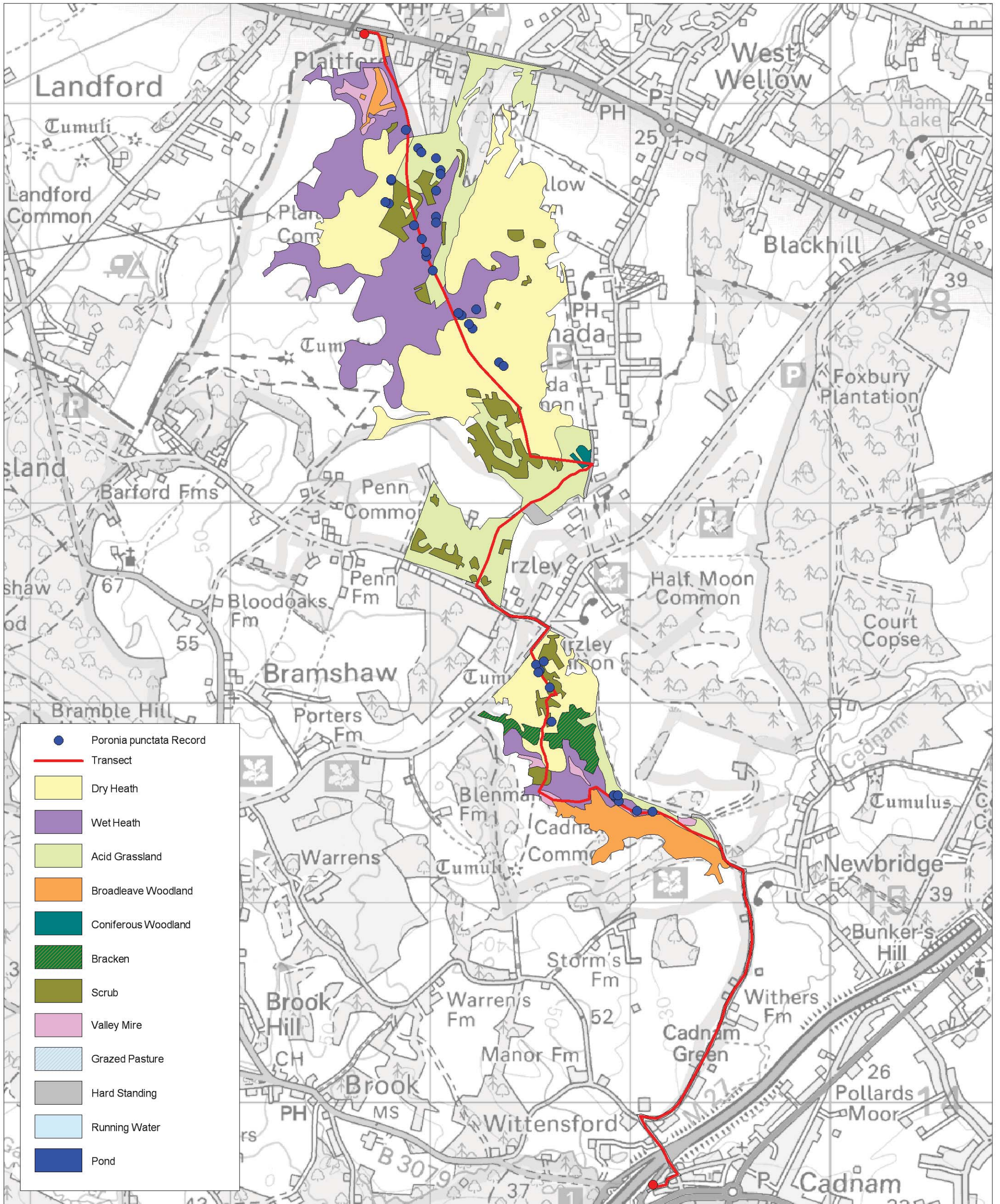
Map 7. Transect 6

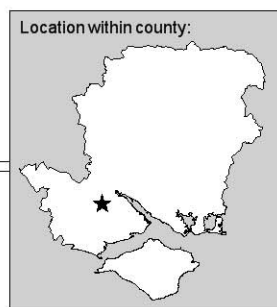
Scale 1:18000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curridge, Hampshire
SO32 2DP



Hampshire &
Isle of Wight



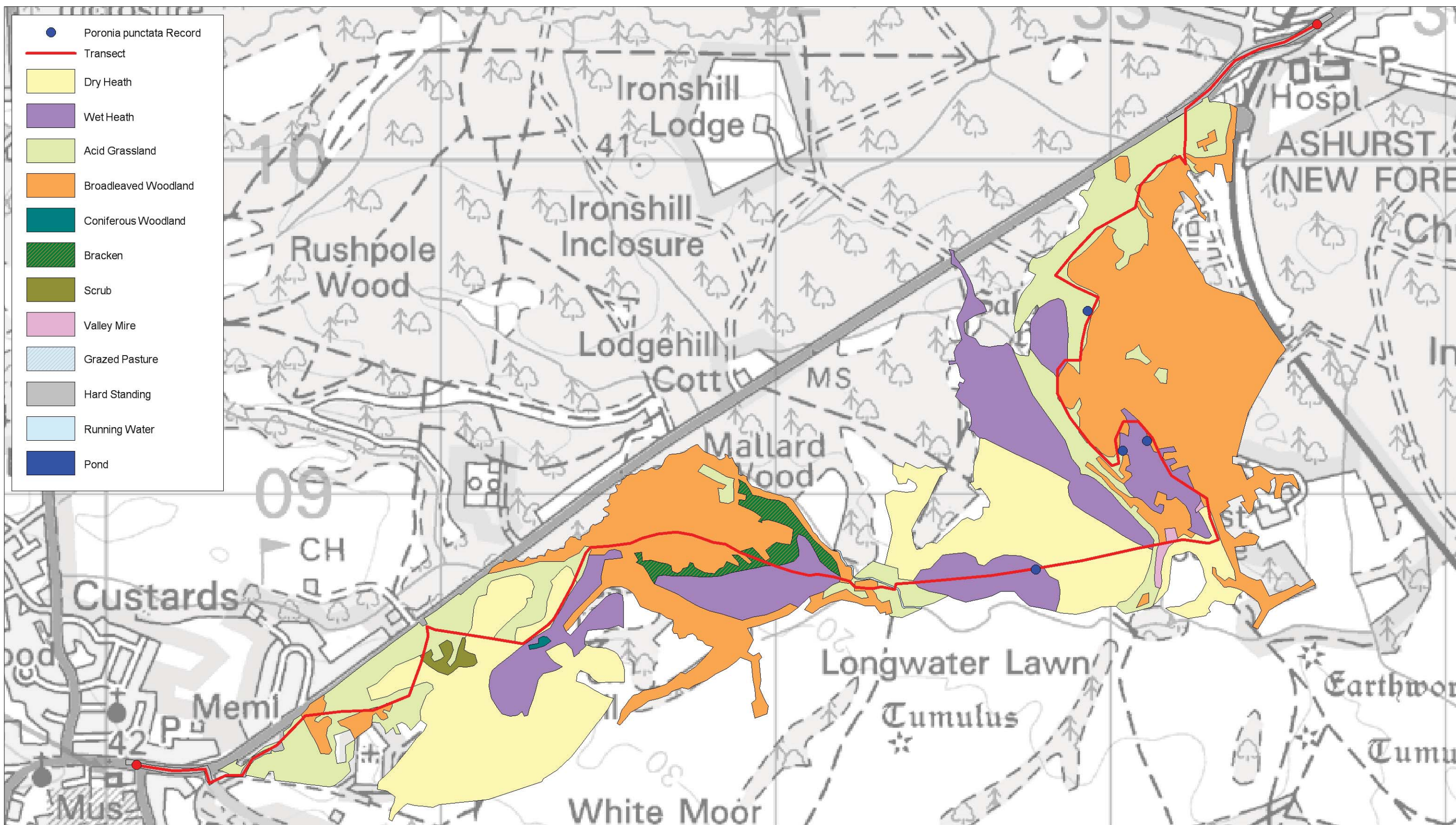


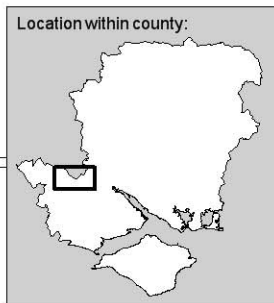
Poronia punctata Monitoring Survey 2010

Map 8. Transect 7

Scale 1:11000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curdridge, Hampshire
SO32 2DP



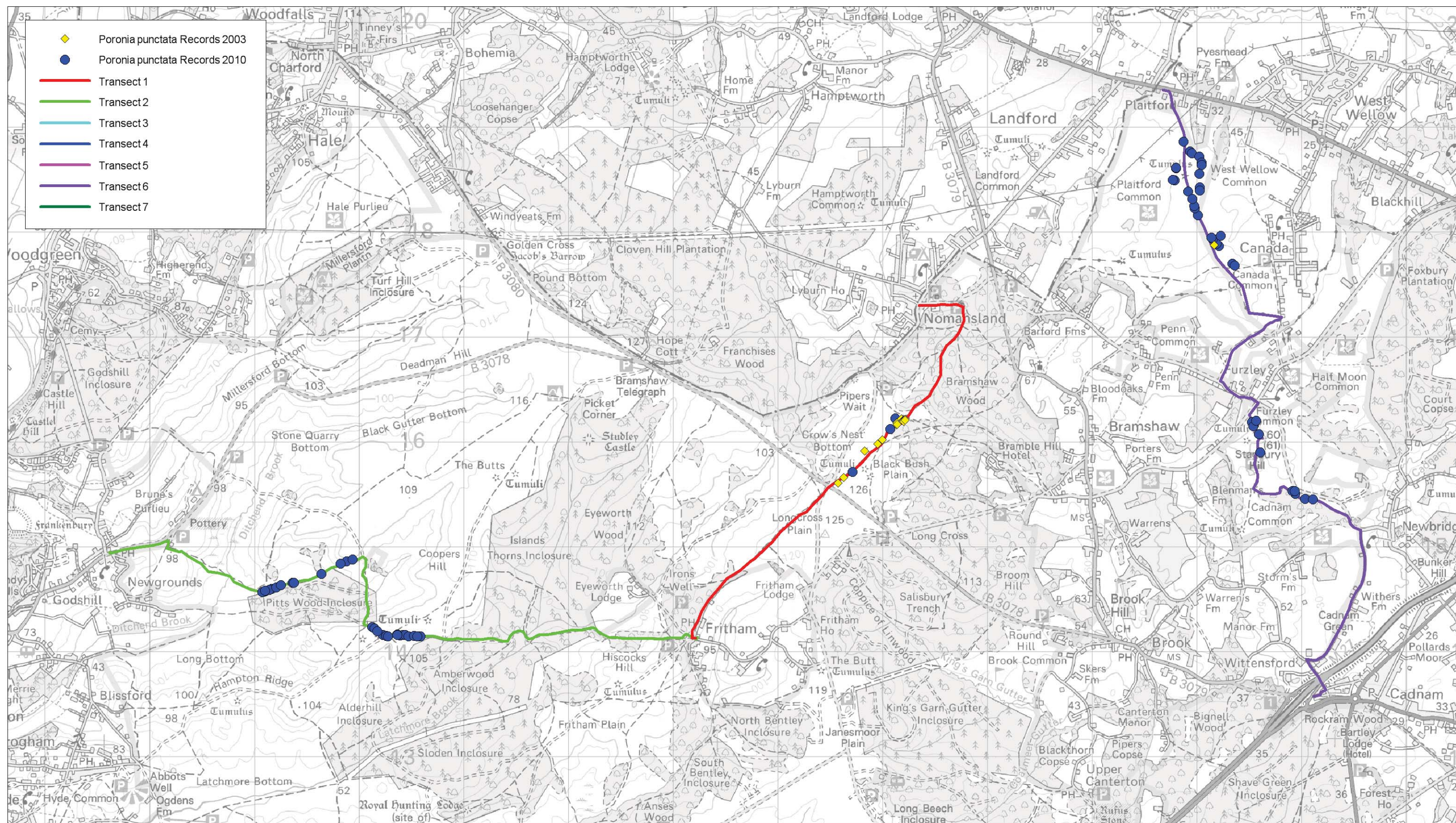


Poronia punctata Monitoring Survey 2010

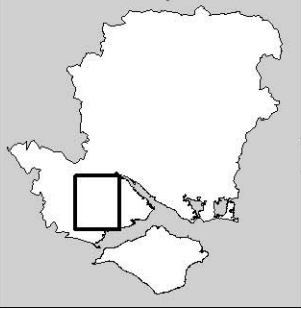
Map 9. Poronia punctata Records 2003 & 2010 (Transects 1, 2 & 7)

Scale 1:35000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curdridge, Hampshire
SO32 2DP



Location within county:



Poronia punctata Monitoring Survey 2010

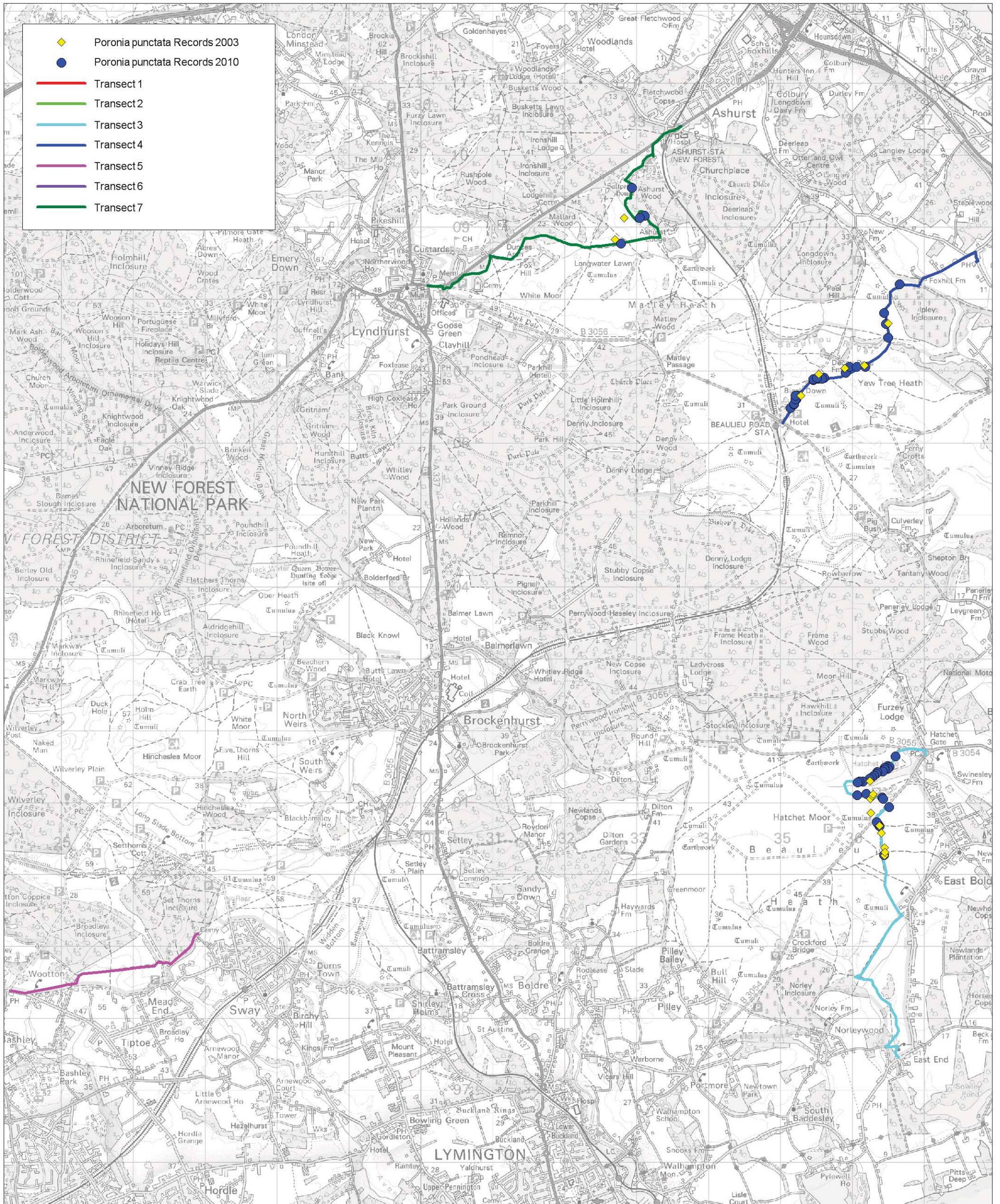
Map 10. Poronia punctata Records 2003 & 2010 (Transects 3 - 6)

Scale 1:50000

Hampshire and Isle of Wight Wildlife Trust
Beechcroft House, Vicarage Lane
Curdridge, Hampshire
SO32 2DP



Hampshire &
Isle of Wight



Map reproduced by Hampshire and Isle of Wight Wildlife Trust (Ordnance Survey licence no. 100015632) with the permission of Her Majesty's Stationery Office, Crown Copyright 2000.

Unauthorised reproduction infringes Copyright and may lead to prosecution or civil proceedings. Coastal aerial photos courtesy of the Channel Coast Observatory.

British Crown and Seazone Solutions Ltd. All rights reserved. Products Licence No. 032009.008

Phase 1 Habitat and SINC data supplied by the Hampshire Biodiversity Information Centre Partnership. Used by permission. Produced by Hampshire and Isle of Wight Wildlife Trust on 4 February 2011 by Sarah Bignell

For enquiries relating to the Wildlife Trust's GIS data contact Deborah King, email DebbieK@hwt.org.uk, tel: 01489 774420.