

Welsh Government

M4 Corridor around Newport

Environmental Statement
Supplement

Volume 3: Appendix S10.3

The Distribution of the Shrill Carder
Bee *Bombus sylvarum* on the Gwent
Levels, 1998 to 2010 [Howe, 2012]

M4CaN-DJV-EBD-ZG_GEN-AX-EN-0042

At Issue | September 2016

The distribution of the shrill carder bee *Bombus sylvarum* on the Gwent Levels, 1998 to 2010.

Dr. Mike Howe
CCW Invertebrate Ecologist
10th May 2012

First recorded from the Gwent Levels in 1998, subsequent surveys (Ecosulis, 2007; Pavett, RobertsEcology, 2009; Smith, 2010, 2011) have shown that the shrill carder bee is widespread (Figures 1 to 4), with particularly strong populations on the Newport Wetlands (Figure 4). Numbers are much reduced towards the eastern end of the Levels (Magor to Chepstow) (Smith, 2011). It is mostly associated with the reens, road verges, field margins and sea wall where there are abundant pollen sources. Shrill carder bee is a Qualifying feature on 6 of the 8 SSSIs which encompass the Gwent Levels – Nash & Goldcliff, Newport Wetlands, Redwick & Llandevenny, Rumney & Peterstone, St. Brides and Whitson. Arguably the small populations on Magor Marsh and Magor & Undy should also be Q features as it is likely that populations across the levels are acting as a single metapopulation.

Smith (2011) located singleton workers or males at Leechpool and Five Lanes Meadow indicating that small populations occur further inland.

With regard to the conservation of the shrill carder bee in south-east Wales, CCW's efforts should be focussed on maintaining and enhancing its status and distribution on the Gwent Levels by promoting sympathetic management of the reens, road verges, field margins and sea wall. This management should ensure an abundant supply of forage plants such as common knapweed *Centaurea nigra*, creeping thistle *Cirsium arvense*, narrow-leaved everlasting-pea *Lathyrus sylvestris*, common bird's-foot-trefoil *Lotus corniculatus*, red clover *Trifolium pratense*, tufted vetch *Vicia cracca* from April to September. Attempts should be made to restore species-rich swards to the many agriculturally-improved pastures on the Levels, initially in areas supporting strong populations.

References

- Ecosulis. 2007. Terrestrial invertebrate survey at St Brides, Wentlooge. E1519 RSK4USP.
- Pavett, P.M. 2004. The status of the shrill carder bee *Bombus sylvarum* on the Gwent Levels. **CCW Contract Science. 623**. Countryside Council for Wales & National Museum of Wales.
- RobertsEcology. 2009. Shrill carder bee (*Bombus sylvarum*) survey. Newport City Council.
- Smith, M. 2010. The status and distribution of the shrill carder bee *Bombus sylvarum* on Magor & Undy SSSI and Whitson SSSI on the Gwent Levels and on Newport Wetlands National Nature Reserve in 2009. **CCW Contract Science. 919**. Countryside Council for Wales.
- Smith, M.N. 2011. The status and distribution of the shrill carder bee *Bombus sylvarum* on the eastern Gwent Levels and within the Caerwent and Caldicot areas of Gwent in 2010. **CCW Contract Science. 972**. Countryside Council for Wales.

Figure 1. The distribution of the shrill carder bee *Bombus sylvarum* on the eastern Gwent Levels, 1998 to 2010.

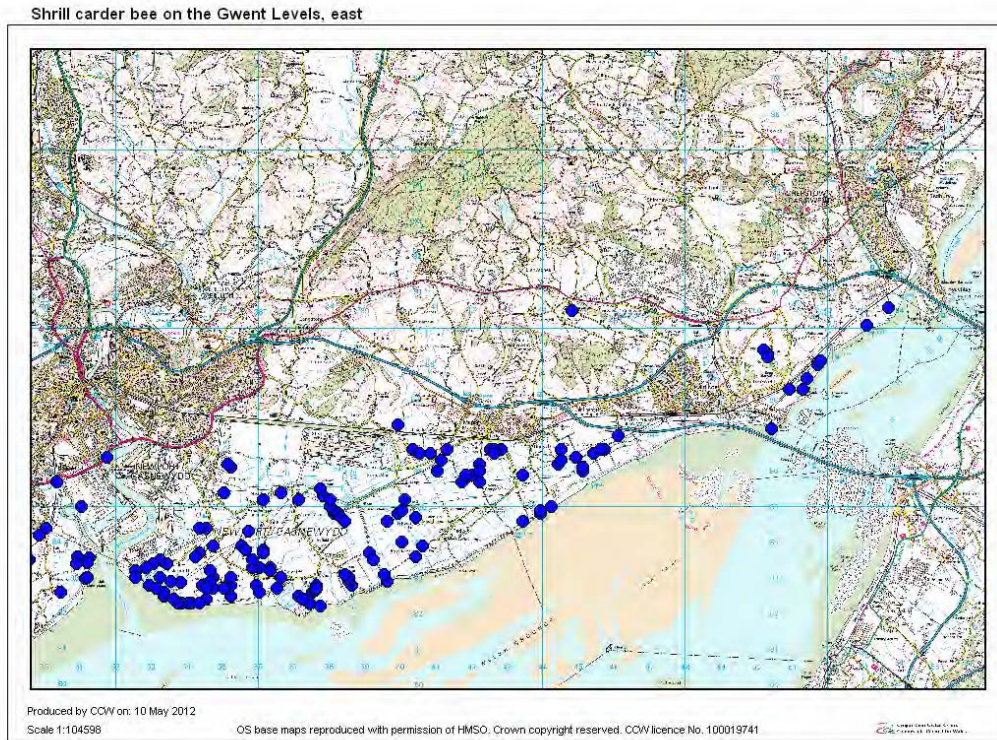


Figure 2. The distribution of the shrill carder bee *Bombus sylvarum* on the western Gwent Levels, 1998 to 2010.

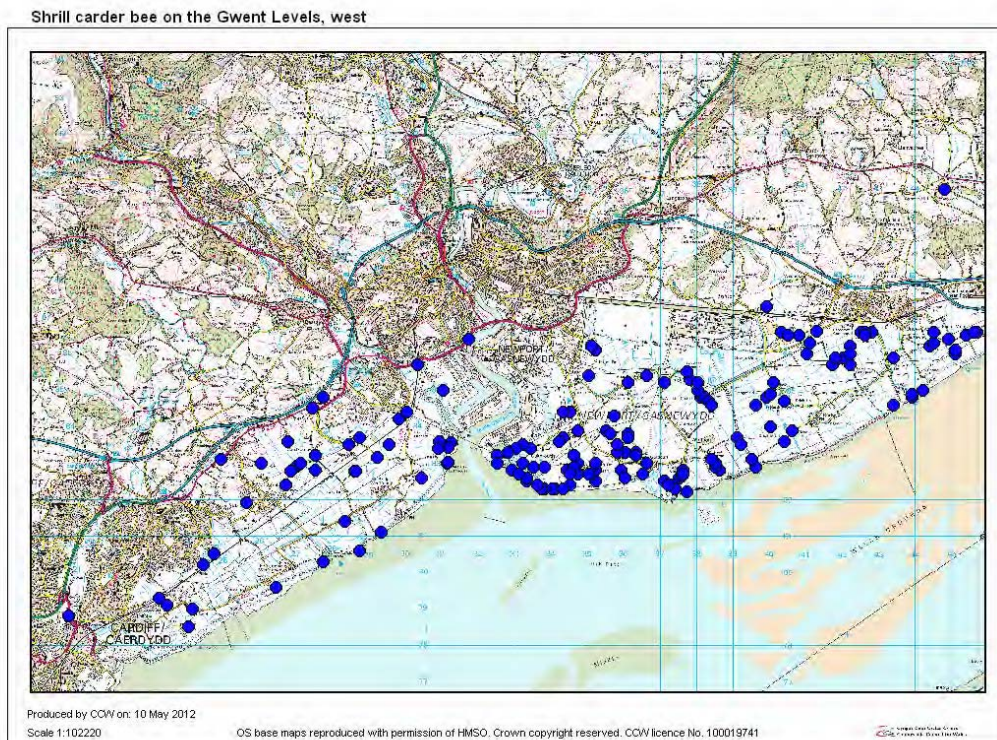


Figure 3. The distribution of the shrill carder bee *Bombus sylvarum* on the eastern Gwent Levels, 1998 to 2010, with an indication of abundance.

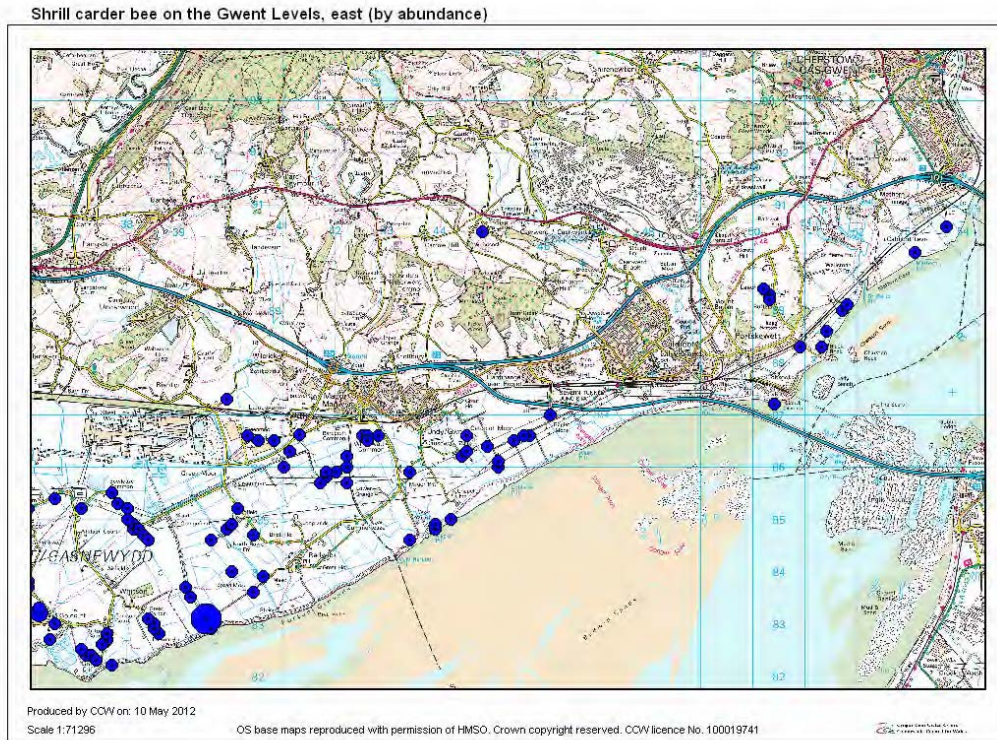


Figure 4. The distribution of the shrill carder bee *Bombus sylvarum* on the western Gwent Levels, 1998 to 2010, with an indication of abundance.

