

SOMERSET NATIVE POPLARS NETWORK

A summary of recent work on *Populus nigra* subsp. *betulifolia*

In 1995, in these pages, two members of the Somerset Native Poplars Network (SNAP) wrote a paper describing the distribution and ecology of the Native Black Poplar *Populus nigra* subsp. *betulifolia* in Somerset, including details of a survey of some 200 trees in Taunton Deane (Anderson and Crampin 1995). More were found in the year or so following publication of the survey, giving a 1996 total count of 239 trees.

Since then there has been considerable progress. It is now estimated that the population of Native Black Poplars in Somerset is 750–900. We have contributed to a national Species Action Plan (SAP) for the tree; we have also suggested it, unsuccessfully, as a candidate for a SAP here in Somerset, but we are pleased to see that it has been honoured with a place in our county's new Priority Species List. We were asked to contribute words to a new Somerset County Council computer database of 'Species Statements' intended to cover all Priority List species. We submitted a number of drafts to this, but it is unclear where the database now stands.

One particular, and very recent, project has been to estimate the rate of loss of this tree from Somerset. This is very important. We have not yet certainly found a female tree of this taxon here and so it may have difficulty replacing itself, other than by purely vegetative means. Although there is specialist planting of the tree, there is not much of it done and many of the plantings are of stock from far away (eg the trees planted in Corfe to commemorate the millennium came from Writtle in Essex) and may not be of the same genotype as our own trees here.

Our survey was done in two ways – by monitoring all the trees in Taunton Deane, and by monitoring those in three 10km squares in three other parts of the county. Both efforts gave substantially the same

result: a steady decay in numbers. The decay in Taunton Deane is shown in Table 1.

This is a very curious result. Statistically it is closer to being a steady (linear) decay than a proportional (exponential or logarithmic) one. Frequently, declines in species are proportional, ie a similar proportion of the remaining trees is lost each year. But our data suggest otherwise, with a steady 20 or so trees being lost every three years. This implies that the proportion of the remaining trees being lost in each three years must itself be increasing in step with the loss, ie the risk of each tree being lost is going up. Of course we have only four three-year periods to look at, and the actual numbers of trees lost are not great: we do not have a huge amount of confidence yet in the conclusion. Nevertheless, the decline from 65 trees to 41 in the three 10km square samples from elsewhere in the county does suggest rather the same pattern. If this is a real trend, then we can estimate that the loss of all the trees present in 1996 will occur in just another quarter of a century or so.

Approximately 31 trees have been planted in Taunton Deane in the last 14 years, but this is many fewer than the 89 lost. In Somerset the taxon cannot replace itself by seed (no females) and we know of none that have certainly appeared by branch-sprouting from fallen trunks during this period, though this happened in the distant past when stream-sides remained wetter throughout the summer. There are trees in the county that might have arisen by other vegetative means, perhaps from the roots, but in each case there seems also to be a more likely planted origin.

During 2008 and 2009 the Forestry Commission (FC) has been carrying out DNA fingerprinting of individual trees that are, or might be, used for cuttings. This is needed for two reasons. Firstly, the Native Black Poplar is subject to national regulations

TABLE 1: THE NUMBER OF NATIVE BLACK POPLAR TREES REMAINING IN TAUNTON DEANE, FROM THE 1996 POPULATION

	1996	1999	2002	2005	2009
No. trees	239	218	193	178	150
Losses each					
3-year period		21	25	15	28
% decline each					
3-year period		8.8	11.5	7.8	15.7

controlling the stock from which large plantings are to be made; and, secondly, it is important that our conservation efforts are aimed at safeguarding the full range of genetic variation within the taxon. To conserve this tree nationally, we need to know which of the (surprisingly few) genotypes or clones each source tree belongs to. The work has been funded by FC. SNAP sent off material from the six trees that it has had in two nurseries for propagation, plus two more that are in the hands of the Environment Agency and an active Trust. FC has not completed delivery of the results yet, but indications from their work and related studies suggest that, in Taunton Deane at least, there may only be two or three clones, and that perhaps one of these is rather unique to here. It is early days yet, but if the final results bear this out then we will know much better which trees are in most need of protection, and just how our situation compares with that in other counties.

As things stand, we may have 10% of the nation's Native Black Poplars, which is high for a single county, especially as about half of all the trees in

Britain may be in just one place: the 'cloughs' (deep ravines) and adjacent boundary features inside Manchester. Local Authorities in some other counties have set up very considerable conservation projects (Aylesbury Vale in particular); here in Somerset, emerging evidence of an alarming loss-rate, allied to the possible uniqueness of one of our genotypes, clearly makes conservation action 'on the ground' a high priority, along with a continuing programme of survey/monitoring and research. By the end of 2010 it is expected that SNAP will have gathered the information needed to allow the development of an action plan for the conservation of Native Black Poplars in Somerset.

Reference

- Anderson, M., and Crampin, J., 1995. 'The native Black Poplar in Somerset, particularly in Taunton Deane', *SANH* 138, 235–45.

MARK ANDERSON