

Sonia Newman: Control of invasive sedges in floodplain meadows; some answers?

Invasive sedges, such as the slender tufted sedge *Carex acuta* and the lesser pond sedge *Carex acutiformis*, have been identified as problems on floodplain meadows both in the UK and across Western Europe. They are also problematic within in wetland habitats in North America. Cutting meadows twice during the summer has been proposed as a control method; however the effect of this management had not been scientifically tested. This study looked at the effectiveness of a double cut treatment on controlling *C. acuta* and *C. acutiformis*, the effects of this treatment on the wider plant community and investigated potential mechanisms regulating the spread of these two species.

Field trials were set up to monitor the effects of the cutting treatment, and pot experiments were undertaken to assess the effects of cutting on plant behaviour. Mesocosm experiments were used to explore the relationships between water regime, microbial community and plant competition.

The field trials revealed that a double cut successfully controlled *C. acuta* and *C. acutiformis* on floodplain meadows. The frequency of the cutting treatment was more important than the timing of the additional cut in controlling both species. *Carex* behaviour was not affected by the timing of cuts, but flowering in *C. acuta* significantly decreased with a double cut compared to a single cut.

The microbial community did not show any significant effect on the plant community in the mesocosm experiment. Low water-tables were found to reduce the yield of *Carex*, but not necessarily its percentage cover. Recommendations for control of *C. acuta* and *C. acutiformis* are:

- Cut the vegetation in mid June and again at the end of August if field conditions allow.
- Grazing with stock during autumn may be used wherever there is sufficient re-growth.
- Maintain double cut regime for three years, which should be sufficient to control sedge invasions, providing excessive waterlogging does not recur.



Carex acuta (easily mistaken for *C. acutiformis* or *C. riparia*)