



Case Study 10.3 Chimney Meadows, Oxfordshire – reduction of high P levels through an annual hay cut and aftermath grazing



Chimney Meadows are a National Nature Reserve and SSSI owned and managed by BBOWT (Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust). In 2004, BBOWT bought 70 ha of arable land adjacent to the NNR and planned to restore it to species-rich floodplain meadow through green-hay spreading, using green hay from the adjacent species-rich NNR. As part of the project plan, soil analyses were undertaken including P data from all the fields. Two of the fields recorded P indexes of 4 (46–70 mg/l-1) which is outside of the range considered suitable for floodplain-meadow restoration. The others recorded P indexes of 3 or below. The index 4 fields had been previously sown with winter wheat or spring barley.

To prepare these fields for green-hay spreading, sheep were used to graze grass and weeds that had grown amongst the stubble, any remaining vegetation was sprayed with the herbicide glyphosate, dead vegetation was topped and the soil was then disc-harrowed to turn dead vegetation into the soil and to create a seed bed.

Green hay collected from the NNR was spread across all the fields at a ratio of 1 ha of green hay cut spread across 3 ha of receptor field. The spread material was then rolled and left to germinate. Follow-up management involved topping the vegetation to a height of 10–15 cm to keep the sward open and encourage germination of other plants, and then annually hay cutting and aftermath grazing once a sward was established.

On the P index 4 fields, a thick grass sward grew very vigorously with few herbs. After hay cutting, grazing and weed topping for ten years, the sward now contains species indicative of lower fertility swards, including cowslip, common knapweed, fairy flax and pepper-saxifrage.

