Berkshire
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Restoring floodplain hay meadows: the example of the Upper Ray Meadows Nature Reserve, Buckinghamshire

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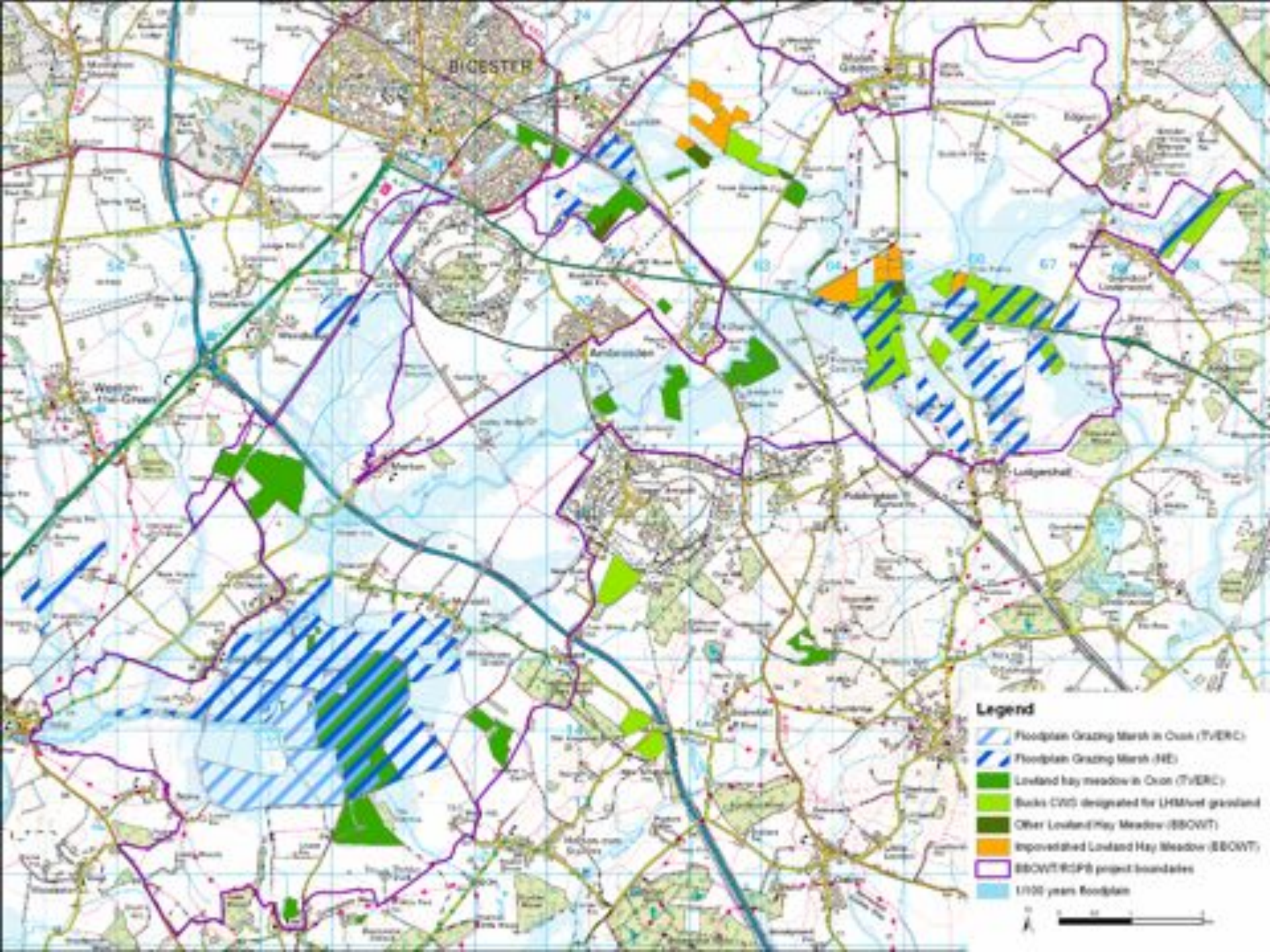
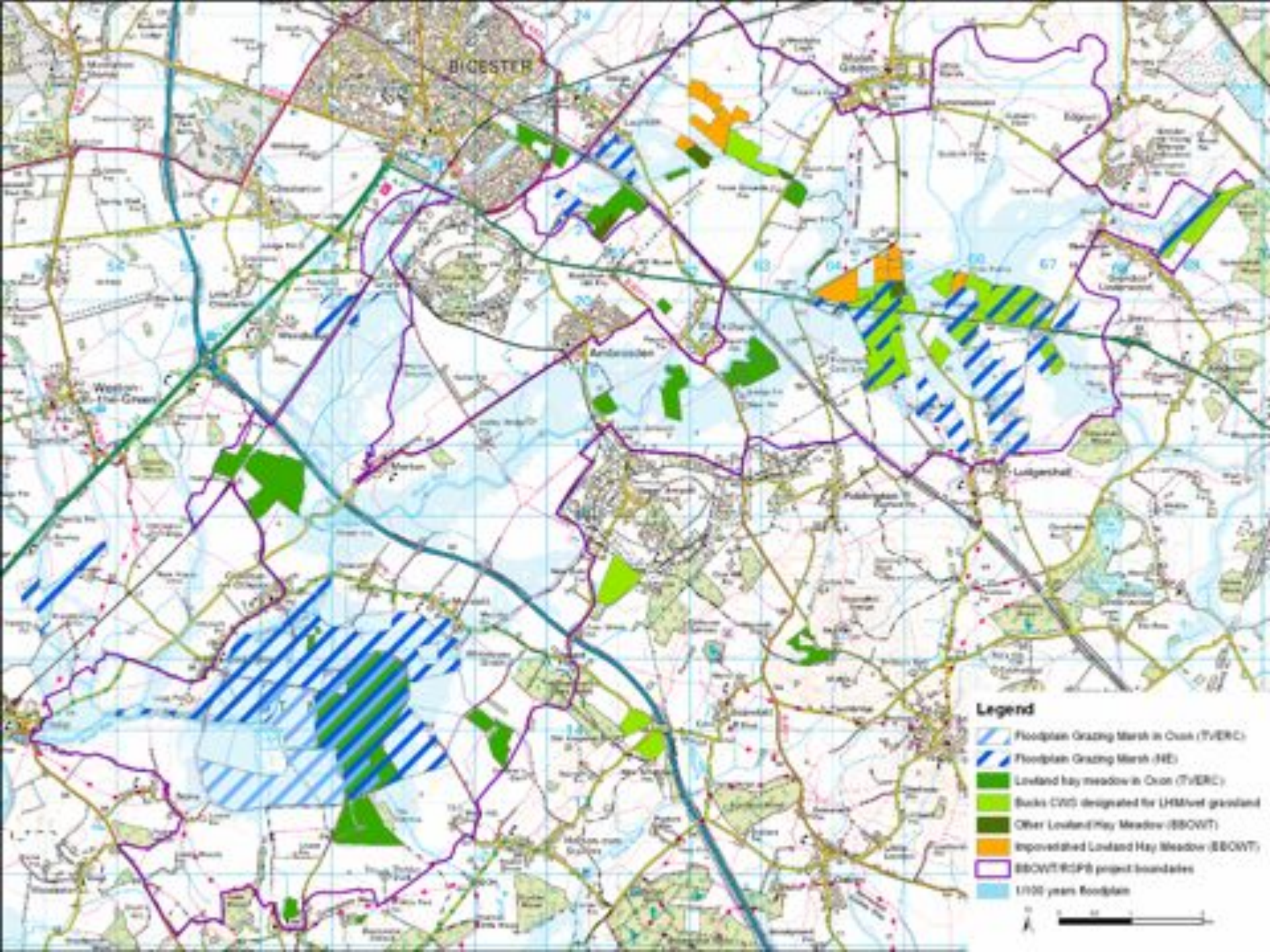
THE wildlife TRUSTS
RSPB
Upper Ray Living Landscape &
Ray Valley Restoration Project


BICESTER
Legend
Floodplain Grazing Marsh in Ouse (TVERC)
Floodplain Grazing Marsh (NE)
Lowland hay meadow in Ouse (TVERC)
Bucks CWS designated for LHM/wet grassland
Other Lowland Hay Meadow (BBOWT)
Improvedrished Lowland Hay Meadow (BBOWT)
BBOWT/RSPB project boundaries
1/100 years floodplain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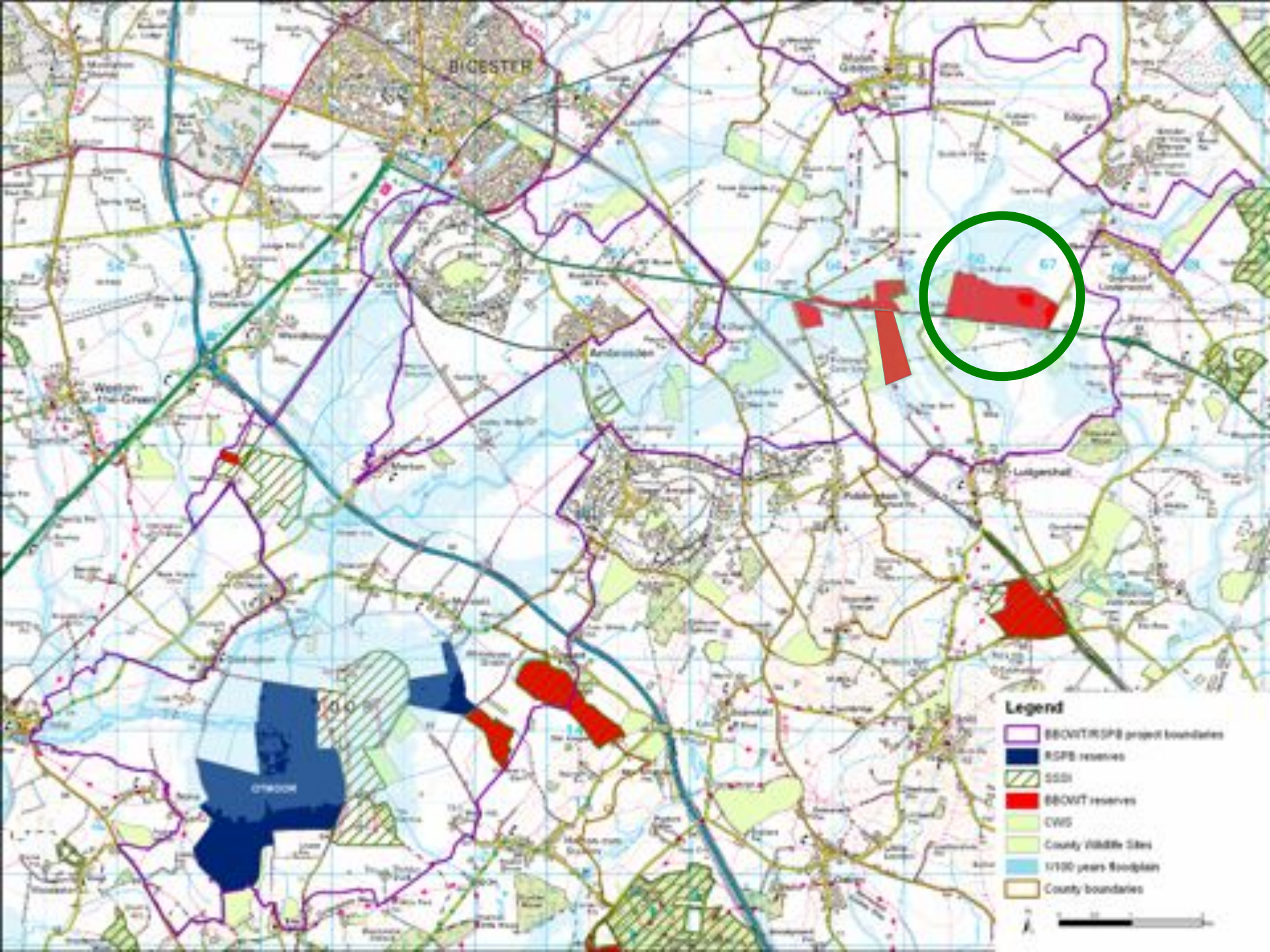
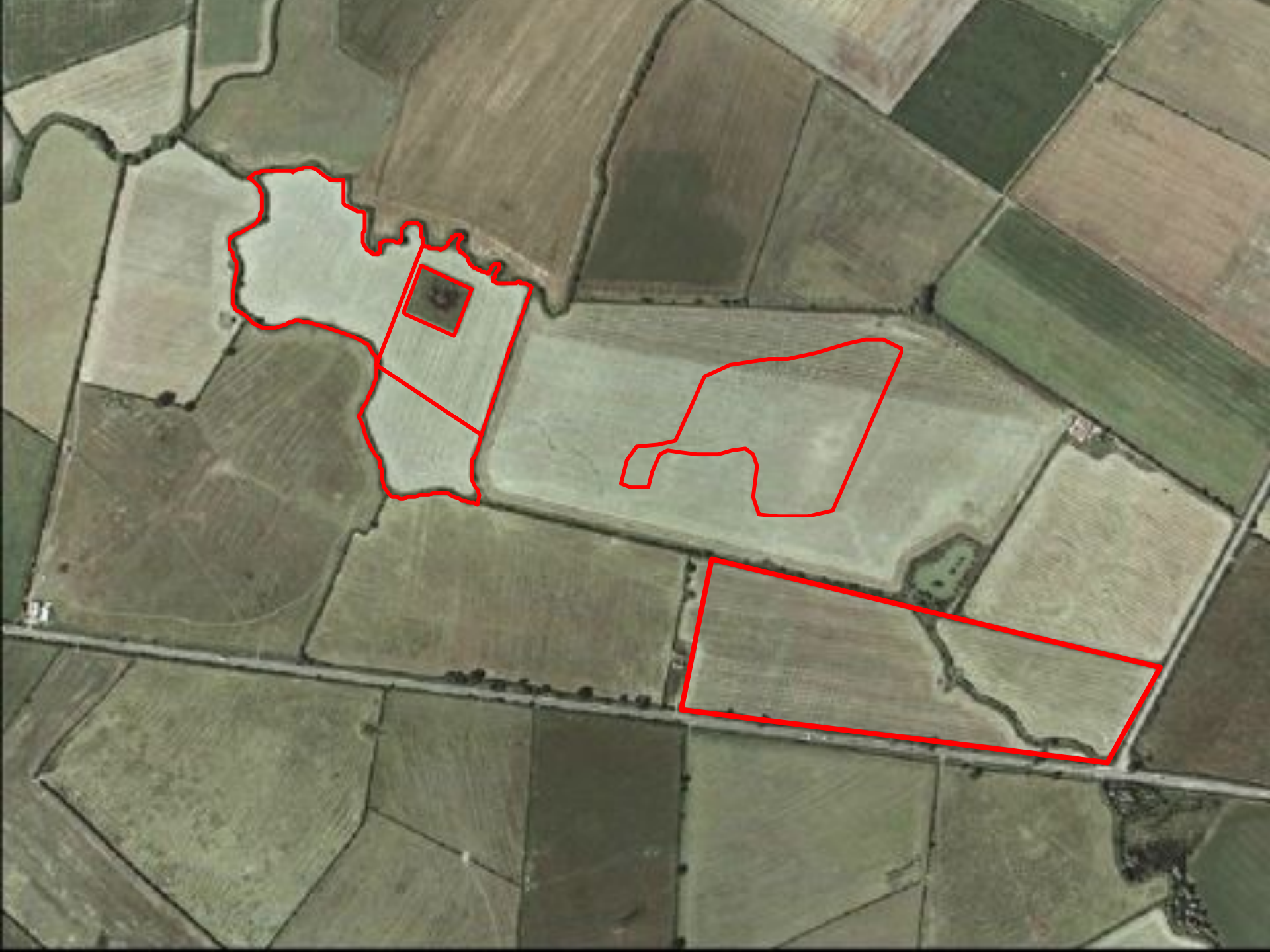
Objectives of the Ray Valley Restoration Project

- Restoring, recreating and reconnecting 5 main floodplain habitats:
  - Species-rich floodplain hay meadows
  - Floodplain grazing marsh & wet grasslands
  - Ponds
  - Rivers & watercourses
  - Reedbeds & Fens
- Maintaining or developing the populations of target floodplain species
  - True Fox Sedge, Fen Violet, Tassel Stonewort…
  - Snipe, Curlew, Lapwing, Redshank, Bittern…
  - Grass Snake, Great Crested Newt…


BICESTER
Legend
BBOWT/RSPB project boundaries
RSPB reserves
SSSI
BBOWT reserves
CWS
County Wildlife Sites
1/100 years floodplain
County boundaries



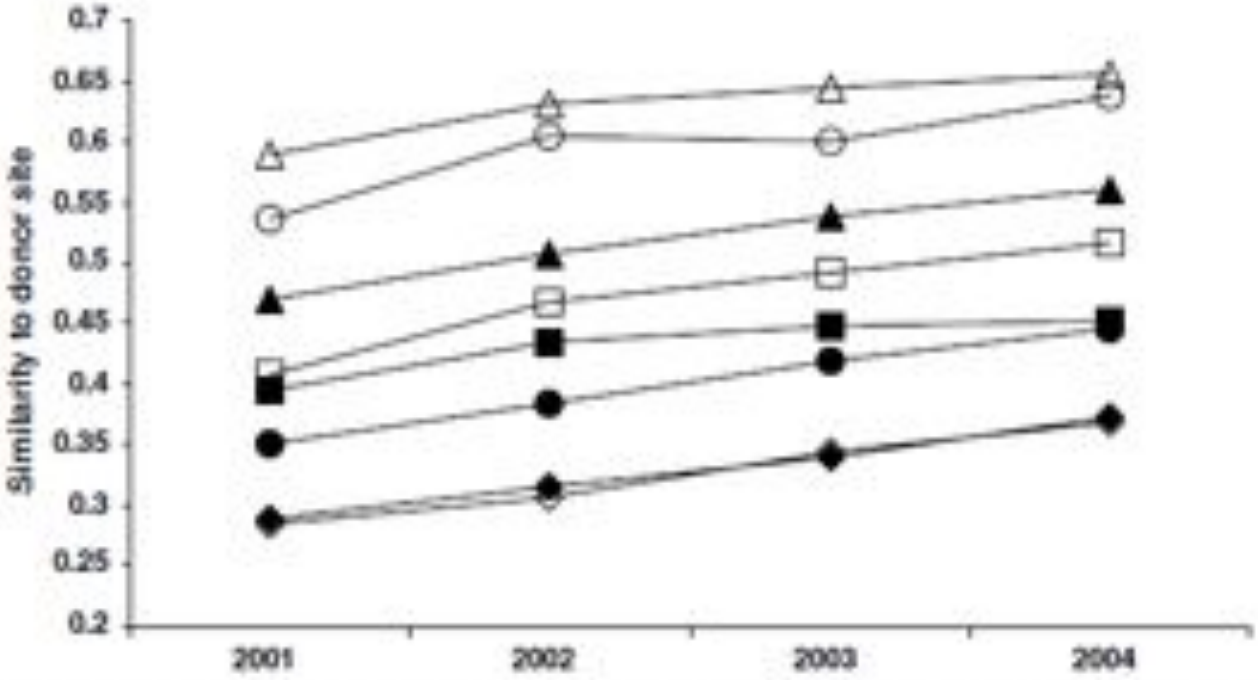


Fig. 2 – Czekanowski similarity coefficients for each treatment at Rocks Farm ♦ Control, ● Hay (low), ▲ Hay (high), ■ Brush Harvest. Open symbols are treatments with Power Harrowing.

Edwards & al (2007). Hay strewing, brush harvesting of seed and soil disturbance as tools for the enhancement of botanical diversity in grasslands. *Biological Conservation* 134 (3) 372–382.

Monitoring

- Replicated Before-After-Control-Impact experimental set-up
  - clusters of 3 permanent 1x1m quadrats (control, green hay, green hay and disc harrowing)
  - 7 replicates (4 in 2008, 3 in 2009)
  - surveyed annually for vascular plants
  - surveyed twice a year (early June and early July) for spiders and beetles using a suction sampler

- Hydrological monitoring
  - 1 dipwell per cluster to monitor water table depth

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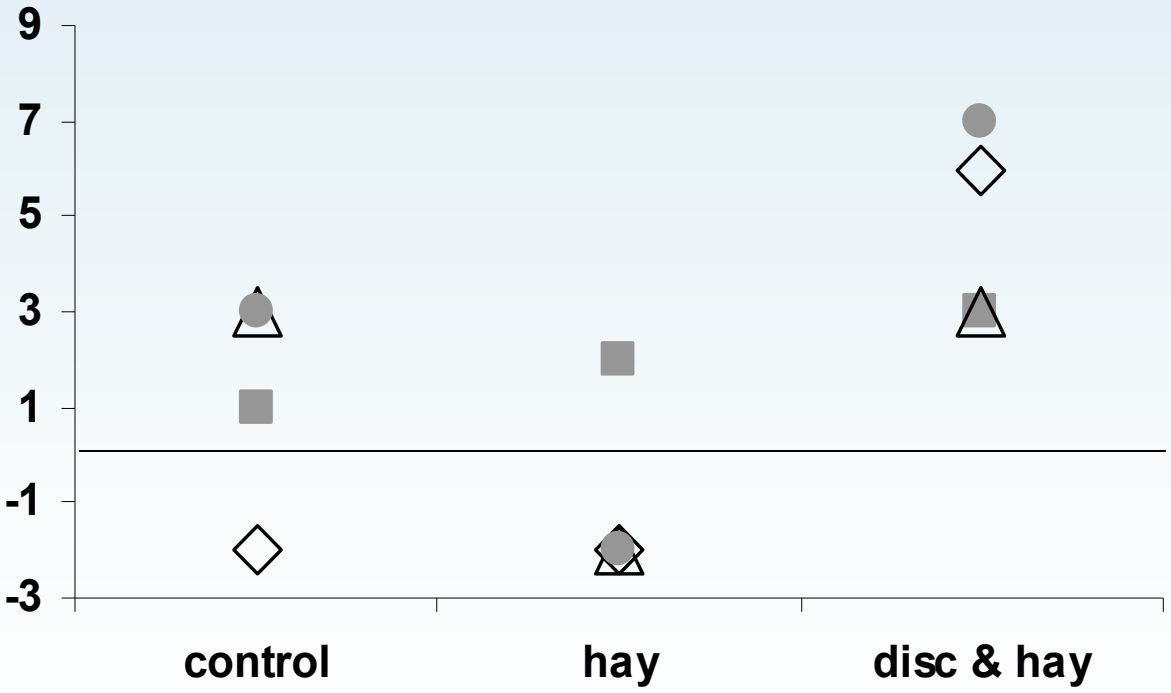
Treated
Not treated

Change in species richness




yr *hay
Centnigr
Cardprat
Rumeacet
Trifprat
Bromsp
Vicisati
Elytrepe
Sangoffi
Ranurepe
Lathprat
Alopprat
Holclana
Agrocapi
Rhinamino
Trifdubi
Lotucorn
Cirsvulg
Cypocris
Leonsaxa
Ranuacri
Dactglom
Plantlanc
Ranuflam
Hordseca
Phleprat
Leucvulg
Poterept
Cirsarve
Lolipere
Prunvulg
yr *disc
yr *cont

- 2009: much tougher when disc harrowing (deeper setting, higher speed)
- 50% bare soil


Any question?