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Landscape-scale conservation assessment of marsh habitats

A project to assess the ecological quality and conservation value of an extensive area of marshland in southern England was undertaken in 2015 in collaboration with associate biologists. In order to fully assess the diverse range of both aquatic and wetland habitats across the site, a range of field and analytical methodologies were employed.



Open water and deep ditches on the marsh were surveyed from a canoe

Deep and expansive areas of open water were typically sampled from a canoe whilst shallow and marginal habitats by wading the perimeter. Field methodologies were generally from established protocols, such as National Pond Survey, PSYM, Environment Agency RIVPACS kick-net and sweep sampling. These techniques were adapted as appropriate for habitats where no established protocols exist or conditions dictated.



Wet willow woodland habitat surveyed

Within large and or complex habitats distinct mesohabitats were surveyed independently. These sub-samples were analysed separately and then combined and analysed as a whole. This allowed the relative value of the various mesohabitats to be assessed in addition the that of the entire waterbody.



Sections of open water within wetland areas surveyed on the marsh

A range of analytical metrics were utilised to investigate biological water quality (BMWP & WHPT metrics); conservation value (National Pond Survey Species Rarity Index, Community Conserva-

tion Index and PSYM analysis); and diversity (Shannon and Berger-Parker Indices).

A series of environmental parameters were measured across the marsh, these data along with information and observations regarding past and present management practices, aided the interpretation of spatial trends in the aquatic faunal assemblages.



Part of the network of shallow open ditches

The conservation value of the macroinvertebrate faunal assemblages of the marsh as a whole, in the absence of published criteria, was assessed utilising a combination of species richness and rarity metrics (such as number of threatened species, species richness, number of habitat-faithful species and Species Quality Index for water beetles). Findings were then compared to published material from similar habitats and a tentative conservation value for the site assigned.

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