

Table 8.1: Review and evaluation of potential control data

Endnote number	Title	Authors	Designation	Notes	Source of data	Format	Target Habitats	Monitoring objective	Scale	Sampling strategy	Field method
32	General/older countryside 32 Environmental Change Network	CEH - others	Many		Website	Database	Many	To establish and maintain a selected network of sites within the UK from which to obtain comparable long-term datasets through the monitoring of a range of variables identified as important to the status of the habitats. Collate data from more than 60 individual surveys to give an overview of the status of UK habitats.	UK	12 terrestrial ECN sites sponsored by a number of organisations.	Whole site baseline survey with up to 500 systematic 2m x 2m plots. Coarse grained monitoring: 50 random 2m x 2m grid plots surveyed every nine years. Fine grained monitoring: At least 2, 10m x 10m plots randomly selected within each SVG type; surveyed every three years. Record of floristic features: permanent grass, cereals and woodland.
243	A review of habitat, land cover and land use monitoring in the RSPB United Kingdom 1986. Contact: Ian Fisher @ rspb.org.uk		Many	WWW	Report	Review	National	Draws together results of 18 previous surveys by the RSPB in the UK to provide a high level of general conservation interest in common land.	UK	na	na
300	Common Land and Conservation: Biological surveys in England & Wales. A Synthesis. Research Report No 71.	English Nature		Also produced as CCS report 59.	Report	Report	na	The IRRSU surveys involved identifying common land > 1ha within the UK and recording the biological and botanical features of management practices.	England and Wales.	The IRRSU surveys involved identifying common land > 1ha within the UK and recording the biological and botanical features of management practices.	
321	Countryside Survey (CS) 1978.	CEH			Report/database	Report/data base	National	To provide detailed information about the habitats and landscape features that are important elements of our countryside.	256, 1 km squares.	Stratified random sample.	Species data for over 1200 vascular plants, and a limited list of bryophytes recorded for 3 types of plot.
328	Countryside Survey 1984.	CEH			Report/database	Report/data base	National	To provide detailed information about the habitats and landscape features that are important elements of our countryside.	384, 1 km squares	Stratified random sample.	Species data for over 1200 vascular plants, and a limited list of bryophytes recorded for 3 types of plot.
319	Countryside Survey 1990.	CEH			Report/database	Report/data base	National	To provide detailed information about the habitats and landscape features that are important elements of our countryside.	568, 1 km squares drawn from 32 land classes.	Stratified random sample.	Species data for over 1200 vascular plants, and a limited list of bryophytes recorded for 3 types of plot.
329	Measuring change in British vegetation 1999.	CEH; Bence, RGH, Smart, SM, van de Pol, JM, Watkins, JW and Scott, WA.		Ecologist report on analysis of CS data.	Report	Paper	National	Extended analysis of CS data and developed a range of indicators of botanical diversity.	National	See CS.	CS
318	Countryside Survey 2000.	Bence-Young, RH and CEH	CS		Report/database	Report/data base	National	To provide detailed information about the habitats and landscape features that are important elements of our countryside.	569, 1 km squares.	Stratified random sample.	Species data for over 1200 vascular plants, and a limited list of bryophytes recorded for 3 types of plot.

Table 8.1: Review and evaluation of potential control data

Endnote number	Quadrat/plot size	Years sampled	Duration (years)	Fixed unit	Indicators	Analysis	Statistical Issues	Applicable to wide range of habitats	Compatibility with AE data	Compatibility with other methods
323	2m x 2m, 10m x 10m	Baseline: 1991, 1994 (at most sites except Stratton) (1995) and Cairngorms (1998)	n/a	No	Species presence recorded in each of the 4m x 4m cells of the plot. Where plots full in woodland, seedlings, dbh, height and dominance are recorded within a surrounding 10m x 10m plot.	n/a		Yes	Possible, although the sites are not typical of the wider countryside.	Yes
242	n/a	n/a	n/a	n/a	n/a	n/a	Difficult to compare data from different surveys, as classifications can be quite different. Baseline classification devised.	Yes	No	No
300	Common land > 1ha	1980s	n/a	n/a	None mentioned.	n/a	n/a	Yes	Not for quantitative analysis	Yes
321, 5, 200m2	Main plots, up to 17, 10 x 1m Linear plots (hedgerows, streams and verges) and 5, 4m2 Habitat plots (tagged to provide additional information on semi-natural vegetation).				Per classes, mean number of species and mean numbers of species groups as measures of diversity. Main plot classes grouped into 6 categories.			Yes	Yes	Yes, uses CS methods
320, 5, 200m2	Main plots, up to 17, 10 x 1m Linear plots (hedgerows, streams and verges) and 5, 4m2 Habitat plots (tagged to provide additional information on semi-natural vegetation).			Yes	Per classes, mean number of species and mean numbers of species groups as measures of diversity. Main plot classes grouped into 6 categories.			Yes	Yes	Yes, uses CS methods
319, 5, 200m2	Main plots, up to 17, 10 x 1m Linear plots (hedgerows, streams and verges) and 5, 4m2 Habitat plots (tagged to provide additional information on semi-natural vegetation).	1990 (compared to 1978)		Yes	Per classes, mean number of species and mean numbers of species groups as measures of diversity. Main plot classes grouped into 6 categories.	WINDSWAN grouped data into plot classes. WINDSWAN and DECORANA ordination scores used to group species into 32 species groups.		Yes	Yes	Yes, uses CS methods
329	CS	reporting on 1978 and 1990.		Yes	CVS. Aggregate classes, species groups help explain ecological differences between sites. Ellenberg indicators - N, L and F, plant strategy theory - C-S-R, mean number of species present per plot, mean species number per plot type, per landscape type, changes in habitat indicator species, changes in NVC indicator species, habitat quality for butterflies and lowland farmland species. Mean number of species per hectare in each 1km square provides a measure of botanical diversity at the landscape scale. Quality lists based on expert judgement, published plant lists, known ecological associations, measures, known ecological associations, used to interrogate CS database, rare species.	2000 repeat plots, CVS-Twainpan into 100 vegetation classes arranged using similar criteria to the 1978 and 1990 plots. Similarly, grouped by aggregate class, shade/disturbance, and soil moisture indicators. Ellenberg indicators - N, L and F, plant strategy theory - C-S-R, mean number of species present per plot, mean species number per plot type, per landscape type, changes in habitat indicator species, changes in NVC indicator species, habitat quality for butterflies and lowland farmland species. Mean number of species per hectare in each 1km square provides a measure of botanical diversity at the landscape scale. Quality lists based on expert judgement, published plant lists, known ecological associations, measures, known ecological associations, used to interrogate CS database, rare species.	Possibility of size of plots introducing bias was investigated by correlating the vegetation character and its distribution in classes with the first axis DECORANA scores for the constituent plots.	Yes	Yes	Comparisons made between 100 CVS and 99 major categories of CORINE. CS-Phase 1 and 2 categories were used to compare categories, some vegetation classes need to be combined. Expert judgement comparisons between BHs and CVS - poor agreement. CS1990 indices and CVS - 1978/1990 indices compared. SMI used to assign average composition of CVS classes to NVC, comparisons difficult because plots in CVS placed at random within 1 km of NVC sites. Comparisons made with NVC. Some comparisons.
318, 5, 200m2	Main plots, up to 17, 10 x 1m Linear plots (hedgerows, streams and verges) and 5, 4m2 Habitat plots (tagged to provide additional information on semi-natural vegetation).			Yes	Species richness (number of plant species found in a plot), pH score, fertility score, soil moisture score, light score, competitor score, soil temperature, soil pH, number of bird food plants, number of food plants for butterfly larvae, CVS, aggregate classes.	2000 repeat plots, CVS-Twainpan into 100 vegetation classes arranged using similar criteria to the 1978 and 1990 plots. Similarly, grouped by aggregate class, shade/disturbance, and soil moisture indicators. Ellenberg weighted by cover, relationship variables used to help interpret and predict changes in veg at a given location. Species groups determined by Ward's minimal variance clustering of the first two axes of DECORANA ordination scores. Change in species groups, changes between aggregate classes, Habitat quality indicator lists, one or more indicator species per plot type having at least one recorded occurrence. Rarely containing rare species, NVC diagnostic - occurrence is considered characteristic of common in other habitat types. Preferential		Yes	Yes, uses CS methods	

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225	Countside Survey 2000 - Quality Assurance Exercise, 1999).	Prosser, M.V. and Wallace H.L.			Report	Report	Mixed	To measure the consistency and reliability of the work done within major components of the CS2000 field programmes.	CS2000 squares.	Random sample of 38 of the 519 squares surveyed in 1998 selected in each a quarter of the square was re-surveyed.	Investigated the efficiency of pilot education, species identification, the accuracy of recording, the accuracy of the CS 1990 survey, the accuracy of land use mapping of the main squares, the efficiency of the recording of changes in squares, the efficiency of the recording of changes in squares as CS.
226	ECN Final Vegetation Recording Project 1996: Practice of the development of the grass monitoring plots on native land (unpublished)			Appendix to main report	Appendix	Appendix	Arable	Describes how to set up arable plots at ECN sites.	ECN sites.		
227	Interannual variability in vegetation and its significance for monitoring environmental change (unpublished).	Macecoll, M.D., Taylor M.E., Parr T.W., Scott W.A., Smart, S.M.		Unpublished copy	Paper	Mixed	To see if it is possible for species composition to change from year to year in response to fluctuations in the weather that could bias the result of inter-annual monitoring.	ECN sites in GB (inc. N.Ireland).		Veg recorded in up to 158 permanently marked plots at 10 ECN sites. Plots selected from a pool of existing plots on basis of maximising the number of vegetation types at each site.	Used line grain vegetation monitoring method. presence of species recorded in 10 randomly distributed quadrats (400mm x 400mm inside larger 10m x 10m plots. Plots surveyed in 1996 and 1997. Same surveyors each time.
159	A review of Phase 1 habitat survey in England. Peterborough Nature Conservancy Council, 1991.	Wyatt, G.		Report discusses pros/cons of various methods of surveying. The review attempts to produce a comprehensive catalogue and analysis of all phase 1 and similar habitat surveys currently in use in England. Information presented in 8 volumes (one for each NCC region of England).	Report	Paper	n/a	n/a	n/a	n/a	n/a
210	Changes in the Cumbrian countryside, 1987. Research K Survey in Nature Conservation No. 6, ISBN 0861397140.	Budd, J., Oswald, P and Welch, P.		Not really a practical survey although information may have been checked in the field. The study compared aerial photographs taken in 1940s and 1970s.	Report	Paper and floppy disc	All	Survey was conducted as part of the National Countryside Monitoring scheme which provided data on the distribution and extent of the various structural components or features of the landscape since the Second World War. Cumbria was the first county to be surveyed.	Cumbria	County stratified according to land class and then grouped into 3 (upland, lowland and intermediate). To ensure adequate sampling of each of the 3 types each 5 x 5 km-square was assigned to the appropriate stratum. Within each stratum 100 random 100m x 100m sample squares were then selected randomly assuming that 10% of the sample was sufficient to achieve the required accuracy. Aerial photos were obtained to aid the unbiased selection of samples and for checking with field data.	None discussed
228	Towards a general monitoring strategy for Royston Common SSSI SAC SPA, Norfolk	Herring, M., Barr, C.J., Bunce, R.G.H.		Unpublished	Report	Report	Mixed	To identify methodological options for monitoring interest features and site limits on Royston Common.	Royston Common, Norfolk.	Report outlines monitoring options for the site.	n/a
151	Grassland			Volume 6 of 6. Summary report of all 5 above.	n/a	n/a	n/a	n/a	n/a	n/a	n/a
238	Yorkshire grasslands: a botanical survey of hay meadows within the Yorkshire Dales national park, 1982. England Field Unit. Project Report No. 10, NCC, Banbury.	Alexck, M.R.	National Park	Refs from endnote #2	Report	Report	Grasslands	To provide information on the distribution and extent of herb rich grasslands and identify a selection of 'valuable' sites.	Grasslands in Yorkshire Dales NP.	Survey restricted to enclosed agricultural land - search made for hay meadows.	Meadows examined for isotopins, tracks and old roads and of each field was noted on a scale based on number of species per square. The survey was carried out in 1982 and 1983. Typify herb rich meadows. Fields on OS maps were annotated accordingly. Phase 2 survey used standard methodology for grassland survey.
186	Environmental monitoring of grassland management in the West Sussex National Park. Jones, C.H., Widdowson, P.M. (eds). East Sussex Wildlife Trust, Wildlife Trust Management and Restoration, Pp 73-94, John Wiley, Chichester.	Gleaves, D.	ESA, SSSI, NNR, SAC, Somerset Wildlife Trust	Overview of various surveys.	Book	Paper	Wet grasslands	To review the impact of the Somerset Levels and moor ESA (31% of the ESA area which is in total 25000 ha).		Changes in land cover identified using aerial photographs with comparison with the baseline map. Sample based survey of 1000 random 25m squares in 1986 and 1995. Bird surveys performed.	Botanical monitoring of permanent quadrats and of stands in a sample of fields.
235	A botanical survey of unimproved grassland of the South Downs in West Sussex, 1992.	Stevens, G.	Some SSSIs.	Report	Report	Report	Unimproved grassland	Botanical survey for conservation interest. Main aim to classify valuable grassland communities present and map their extent. Downs.	Areas of long established grassland surveyed. Sites selected with reference to a previous major survey of chalk grassland.	Surveyed using standard EHF recording cards and map mapping communities present and compiling species lists. Also assigning DAFOR values to species in each community. Quadrats were taken in the main communities - in most cases at least 8 quadrats were sampled to show the range of variation within communities.	Surveyed using standard EHF recording cards and methods. This involves walking across site, distinguishing communities present and compiling species lists, also assigning DAFOR values to species in each community. Quadrats were taken in the main communities - in most cases at least 8 quadrats were sampled to show the range of variation within communities.
235	A botanical survey of unimproved grassland of the South Downs in East Sussex, Vol. 1, 1992.	Stevens, G. and Muggelidge, N.	Some SSSIs.	Report	Report	Report	Unimproved grassland	Botanical survey for conservation interest. Main aim to classify valuable grassland communities present and map their extent. Downs.	Areas of long established grassland surveyed. Sites selected with reference to a previous major survey of chalk grassland.	Surveyed using standard EHF recording cards and methods. This involves walking across site, distinguishing communities present and compiling species lists, also assigning DAFOR values to species in each community. Quadrats were taken in the main communities - in most cases at least 8 quadrats were sampled to show the range of variation within communities.	Surveyed using standard EHF recording cards and methods. This involves walking across site, distinguishing communities present and compiling species lists, also assigning DAFOR values to species in each community. Quadrats were taken in the main communities - in most cases at least 8 quadrats were sampled to show the range of variation within communities.
239	A botanical survey of unimproved grassland of the South Dales national park, 1985. Yorkshire Dales National Park Committee.	Stevens, G. and Muggelidge, N. Bunce, R.G.H.	National Park	Report	Report	Report	Unimproved grassland	Site inventory for above.	n/a	n/a	n/a
239	A botanical survey of hay meadows in Teesdale, Lamesdale and Baldersdale, Durham 1986-1988. England Field Unit, project report no. 94, NCC, Peterborough, 1996.	Prosser, M.V.	Some SSSIs.	Refs from endnote #2	Report	Report	Hay meadows (grassland)	Extends previous work done on status of enclosed grasslands.	Teesdale, Lamesdale and Baldersdale, Durham.	Phase 1: Hay meadows noted on map. Visits made and notes made on conventional Grassland Recording Card. Phase 2: Detailed survey of 60 sample squares selected based on number and abundance of characteristic and rare species which typify herb rich meadows. Phase 3: 1 in square - species listed and assigned a DOMIN value. DAFOR listings.	Phase 1: Hay meadows noted on map. Visits made and notes made on conventional Grassland Recording Card. Phase 2: Detailed survey of 60 sample squares selected based on number and abundance of characteristic and rare species which typify herb rich meadows. Phase 3: 1 in square - species listed and assigned a DOMIN value. DAFOR listings.

Table 8.1: Review and evaluation of potential control data

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	325 (a for CS)		1998 > 1		n/a	T-test comparison of OA and CS2000.		Yes	Yes	Yes
232	10m x 10m	n/a	n/a	n/a	Ellenberg mentioned.	n/a	n/a	Yes, possibly	No	No
234	10m x 10m	1996 -			Grime, Ellenberg.	MAVIS vegetation analysis programme used. Comparison of plots between subsequent years using T-tests, Mann-Whitney U tests.		Yes	Possibly, although the sites are not typical of the wider countryside.	Yes
159	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not directly
210	5 x 5 km	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Not directly
326	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Yes	n/a	n/a
153	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	Yes, uses CS methods.
238	Phase 2 survey - 2, 1m2 quadrats		1981		Grassland indicator species.	Number of fields in categories counted, quadrats allocated to NYC classifications.	Difficult to identify hay meadows from mid June, as some species may have been overabundant.	Yes	Yes	Yes
186	8m x 4m	1987 - 1995	Various		Suited species, soil moisture content, nutrient availability, grazing intensity.	Endgroups described using TWINSSPAN. Cover estimated according to the DOMIN cover estimation system made with NYC communities.	None mentioned	Yes	Yes, (review paper)	Yes
235	1m2		1992 > 1	No	None mentioned.	Site inventory produced and communities mapped.		Yes	Some quadrat data, could be compared.	Yes
233	1m2		1991 > 2	No	None mentioned.	Site inventory produced and communities mapped.		Yes	Some quadrat data, could be compared.	Yes
231	None	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
230	None	n/a	1979	n/a	Indicator species analysis used to allocate the sites to types according to plant affinities.	The processing of field data used indicator species analysis (ISA) to distinguish field types on the basis of botanical composition of the swards studied and a reciprocal comparison of the indicator species. Field data were estimated using CS maps and Reiter-Jung manual optical plotting system (MDP2).	Indicatives were identified in a previous survey and to reduce the workload some were discontinued (those exclusive to upland terrain and therefore not containing herb species). The area sampled for the D data as a whole as it was assumed to be representative.	Yes	ISA method possibly too old. Not easily comparable.	Not directly
239	1m2	1986 - 1988	2	No	Grassland indicator species.	TWINSSPAN analysis on quadrat data.		Yes	Yes	Yes

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245	Report on the Botanical Declination of the meadows of the South West region July- Oct 1977.	NCC			Report	Report	Grassland	Survey aimed to know: identify and classify areas of herb rich grassland.	Avon, Cornwall, Devon, Dorset and Somerset.	Organisations such as the NVC and County trusts for wildlife suggested possible sites for survey, as did members of the public.	Surveyors used lists of indicator species with 66 species present in 3 sites. 33 species were recorded, as were site details such as drainage and geology.
312	The extent of semi natural grassland communities in lowland England and Wales: a review of conservation surveys 1978-1996. Grass and forage science. 54, 1-18. 1999.	Blackstock, T.H. et al.	Some SSSIs.	Via NVC web site report no. 312	Journal	Paper	Semi natural grassland	To review the extent of semi natural grassland survey coverage carried out between 1978-1996 to abstract and collate cover data for individual plant communities, to estimate community cover nationally and to assess conservation implications of the findings.	England and Wales.	Data derived from surveys carried out by NCC, EN and CCW.	n/a
234	A botanical survey and assessment of the chalk grasslands of Hampshire. 1987. English Field Club report no. 26. NCC.	Panton, B.J.	Some SSSIs.	Refs from endnote #28	Report	Report	Chalk grasslands.	Forms part of a national survey and review of the chalk grassland resource.	Hampshire	Sites selected for Phase 2 survey from information gathered in previous surveys.	Grassland stands identified to NVC sub-community level. In addition, additional species in 20m area recorded as tick on recording card. For each sub-community, species list of vascular plants and more conspicuous bryophytes recorded using DVMOR scale. General site information recorded including showing extent of site. Subjective appraisal of site made.
306	A review of the extent, conservation interest and management of lowland acid grassland in England. Vol 1 - Overview. Vol II - County descriptions. Research Report No. 259.	English Nature	SSSI, ESA, CSS	Review	Report	Review	Lowland acid grassland	Descriptions of grassland areas by county.	England	n/a	n/a
308	Inventories of Lowland Grassland in England: Rationale & Methodology. Research Report No 215	English Nature	SSSI, ESA, CSS	Rationale and methodology only.	Report	Report	Lowland grassland	Explains rationale and methodology of grassland inventories, for which more detailed survey information is held. Explains how to use the inventories.	England	n/a	n/a
253	Lowland grassland in natural areas: national assessment of significance. English Nature Reports no. 171. Peterborough. 1996.	Jefferson, R.G.	EN Natural Areas	Refs from endnote 449	Report	Report	Lowland grassland	To provide a national overview of lowland grasslands in semi natural grassland types occurring in each Natural Area, key issues affecting resource, list of key sites and overall national and significance of each Natural Area for lowland grassland.	England	Grassland overviews compiled using several previous surveys and inventories.	n/a
292	National SSSI sample survey of lowland grasslands. Research Report No 130. 1995.	English Nature	SSSI	Flor sample survey.	Report	Report	Lowland grassland	Part of integrated program of monitoring and reporting external threats and the nature conservation of lowland grassland sites. Tries to gain some measure of the condition, and make an assessment of features for which site was chosen for SSSI.	England	172 sites selected from list of lowland grassland SSSIs. No. of sites in local area proportional to no. of lowland grassland SSSIs in area. Sub units of SSSIs with single management regime selected as sample unit. Sample units = 211	Questions to collect on: ownership and management details. Site Condition Form completed by surveyors for each site. Whether or not surveyors felt management was likely to maintain or enhance features on site.
295	Lowland grassland: wildlife value and conservation status. Research Report No 169.	English Nature	Some SSSI, NNR, MCR, ESA, CSS.		Report	Report	Lowland grassland	Report intended to provide compendium of information on the distribution, extent and conservation status of lowland grassland and associated species. This will assist in process of conserving and enhancing remaining areas of habitat.	England	n/a	n/a
297	Lowland wet grassland survey. March 2. Vol 2: Botanical Nature Reference Inventory and quality profiling report. Research Report No 149.	English Nature	ESA		Report	Report	Lowland grassland	To map all areas of fresh, brackish, salt, peat and collared lowland wet grassland as an inventory to be used in developing a national strategy for the conservation of lowland wet grassland.	Essex and Norfolk.	Data from phase 2 grassland survey. Botanical surveys of ditch systems and other characteristic habitats, bird surveys, aquatic and terrestrial invertebrate surveys.	n/a
181	The changing extent and conservation interest of lowland grasslands in England and Wales: a review of grassland surveys 1950-1984. 1987. Biological conservation 46, 281-300.	Fuller, R.M.		Review paper	Journal paper	Paper	Lowland grasslands (including both common and improved).	Review of various data sources to assess the changing extent of lowland grasslands in England and Wales over the last 50 years.	Various - see table 1 in paper.	Various - see table 1 in paper.	Various - see table 1 in paper.
269	Monitoring the condition of lowland grassland SSSI's. I: A test of the rapid assessment approach. English Nature Reports No. 315. BSSN 0967876X. 2000.	Robertson, I.J., Bingham, J., Slater, J.	SSSI	Refs from endnote #67	Report	Report	Lowland grassland.	To assess whether nature conservation features of sites are in a favourable condition.	UK	3 NVC types of lowland grassland were examined in 15 sites.	3 observers assessed sites, noting frequency of community character species, negative indicator species, proportion of herbs, sward height, litter and bare ground. Also noted damage to sites. Species composition and vegetation height recorded in all quadrats, % cover of herbs, bare ground, dead plant litter recorded for random sub-sample of 10 quadrats in each of 12 sites. Species composition of a quadrat recorded for 10 quadrats in each of 12 sites. Species composition of a quadrat recorded for 10 quadrats for each area.

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24	n/a	May-Sept 1977.	Fieldwork - 16 weeks.	No	Grassland indicator species.	Information recorded in data sheets for each county. From each 1m x 1m quadrat, 100 plants were identified. Species Diversity Index (SDI), Species Richness Index (SRI) and SRI were calculated for each quadrat. Final SRI and SDI summed.	Only small portions of each county surveyed.	Yes	Possibly	Yes
312	n/a	1978-96	n/a	n/a	None mentioned.	n/a	n/a	No, grassland only	n/a	n/a
254	1m2	May-Sept 1987.	<1	Yes	None mentioned.	Deferred correspondence analysis carried out on the data. Correspondence analysis produced ordination plots for each NYC sub-community type.		Yes	Yes	Yes
306	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No	No	No
308	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No	No	No
255	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No, lowland grassland only	No	No
292	n/a	1992, 1995	1 year	n/a	None mentioned	Data from survey forms entered into two Paradox tables - one for questionnaire data, one for site condition data. Relation ship between grassland condition and occupier types, property types, management and other factors was investigated using Correspondence analysis used where appropriate.	Data relies on surveyor subjectivity. No baseline data for condition in most cases.	Yes	Requires further study.	No
296	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No, lowland grassland only	No	No
297	n/a	n/a	n/a	n/a	n/a	Paradox relational database used.	n/a	No	n/a	n/a
181	Various - see table 1 in paper.	Variety	Variety	Various problems mentioned to do with combining information from different times and by different methods.	n/a	n/a	n/a			
260	1x1m	1968- ∞	n/a	n/a	Condition assessment: frequency of community character species, negative indicator species, proportion of herbs, grasses, forbs, etc. Also recorded in 40 quadrats - vascular plant species and vegetation height recorded in all quadrats, % cover of herbs, grasses, forbs, etc. in each random subsample of 10 quadrats in each of 12 sites. Species composition of a random subsample of damaged areas, 2 per NYC type recorded for 10 quadrats for each NYC type. Species composition by random suited species to assess entrophication, grazing suited species, wet suited species, natural strategy disturbance total number of various indicators and total number of non-herb species.	Comparison of attributes: condition assessment method and functional species groups. Differences in averages of each group between sites. Also recorded in 40 quadrats - vascular plant species and vegetation height recorded in all quadrats, % cover of herbs, grasses, forbs, etc. in each random subsample of 10 quadrats in each of 12 sites. Species composition of a random subsample of damaged areas, 2 per NYC type recorded for 10 quadrats for each NYC type. Species composition by random suited species to assess entrophication, grazing suited species, wet suited species, natural strategy disturbance total number of various indicators and total number of non-herb species.	Yes	Requires further study.	Requires further study.	

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Endnote number	Title	Authors	Designation	Notes	Source of data	Format	Target Habitats	Monitoring objective	Scale	Sampling strategy	Field method
151	Current status and prospects for key habitats in England. 1997. Part 2: Chalkware grassland landscapes.	Barr, C.J. (ed)	50% of sites from SSSI, AONR, ESA and green belt.	Volume 2 of 6	Report	Paper and GIS	Chalkware grassland	To establish a baseline of 5 key habitats included in the original current ecological status and review their immediate prospects	England	The study extended and developed the survey methodology used in CS1990. 141 surveys were pre-identified training and a field survey in 1997. CS1990 plots 43 squares sampled in 1996 regular grid of 16 points rather than mapping the whole square as in CS1990. 5 of these points were selected at selected habitat, defined and assess sites or determine management for detailed vegetation recording in plots, being recorded by the random sample as were some verge plots. A fully objective and reproducible methodology for botanical assessment designed to provide a robust and reliable baseline for long term monitoring of ecological change and to provide input into the management plan. A pilot study was carried out to assess the survey approach.	All surveys were pre-identified training and a field survey in 1997. CS1990 plots 43 squares sampled in 1996 regular grid of 16 points rather than mapping the whole square as in CS1990. 5 of these points were selected at selected habitat, defined and assess sites or determine management for detailed vegetation recording in plots, being recorded by the random sample as were some verge plots. A fully objective and reproducible methodology for botanical assessment designed to provide a robust and reliable baseline for long term monitoring of ecological change and to provide input into the management plan. A pilot study was carried out to assess the survey approach.
228	National sample survey of SSSI fens, 1999. English Nature Research Report No. 349.	Sally, L.D.	SSSI	1 of 4 reports, others are for lowland heathland and woodland.	Report	Paper	Fen	Part of larger programme to provide a strategic overview of the distinct but comparable to routine assessment surveys and were designed to explore the links between habitat condition and management.	National	SSSI fens were only included if conservation objectives were met and whether they were 'upland' or 'lowland' and a sub sample of 150 sites randomly selected from the stratified sites, the number selected being proportional to the number of units in the stratified sample.	Condition assessment.
232	Lowland heathland in England: a national scale approach. 1996. English Nature Research Reports No.170.	Michael, N.	SSSI	Sample survey	Report	Report	Lowland heathland	To produce individual profiles of lowland heathlands.	England	Data taken from EN/RSPB lowland heathland counts in conjunction with Natural Area profiles produced by EN local teams, SSSI citations, British Plant Communities, Vol 2.	
290	National SSSI Sample Survey of lowland heathland. Research Report No. 291.	English Nature	SSSI		Report	Report	Lowland heathland	Part of integrated programme of monitoring and reporting. Explores links between management, occupier's wider interests and heathland sites. Tries to gain some measure of the condition, and make an assessment of features for which site was chosen for SSSI.	England	97 sites selected from list of 385 lowland heathland SSSIs. No. of Condition assessment sites in local area proportional to no. of heathland SSSIs in area. Sample unit. Sample units = 120.	
308	Lowland Heathland: wildlife value and conservation status. Research Report No.188.	English Nature	some NNRs	Part of EN's National Lowland heathland programme.	Report	Report	Lowland heathland	To provide a compendium of information on the distribution, extent and conservation status of lowland heathland.	England	Gives guidelines for monitoring lowland heathland sites.	in a
253	North Staff for chalkware moors survey, 1985. Unpublished RSPB report.	Waterhouse, M.	SSSI	Refs from endnote #43.	Report	Report	Moorland	To assess the population of upland heath species, to ascertain which habitats were being used by these species, to consider the impact of present agricultural and other uses.	5,666ha	Area surveyed 3 times using standard RSPB record card. 112 visits. Records of birds made, also habitat types present and made to sites.	grazing
148	Current status and prospects for key habitats in England. 1997. Part 1: Lowland heath landscapes	Barr, C.J. (ed)	50% of sites from SSSI, AONR, ESA and green belt.	Volume 1 of 6.	Report	Paper and GIS	Lowland heath	To establish a baseline of 5 key habitats included in the original Countryside Stewardship scheme, determine the extent and current ecological status and review their immediate prospects	England	The study extended and developed the survey methodology used in CS1990. Standard random sampling. Data for 16 CS1990 plots recorded on a 16m x 16m grid. CS1990 plots 43 squares sampled in 1996 regular grid of 16 points rather than mapping the whole square as in CS1990. 5 of these points were selected at selected habitat, defined and assess sites or determine management for detailed vegetation recording in plots, being recorded by the random sample as were some verge plots. A fully objective and reproducible methodology for botanical assessment designed to provide a robust and reliable baseline for long term monitoring of ecological change and to provide input data for the management plan. A pilot study was carried out to assess the survey approach.	All surveys were pre-identified training and a field survey in 1997. CS1990 plots 43 squares sampled in 1996 regular grid of 16 points rather than mapping the whole square as in CS1990. 5 of these points were selected at selected habitat, defined and assess sites or determine management for detailed vegetation recording in plots, being recorded by the random sample as were some verge plots. A fully objective and reproducible methodology for botanical assessment designed to provide a robust and reliable baseline for long term monitoring of ecological change and to provide input data for the management plan. A pilot study was carried out to assess the survey approach.
310	Upland resource survey consolidation project: phase 1: Darroore, Cilm Measure, The Peak District, 1993. English Nature Research Report No. 631	English Nature	LFA		Report	Report	Upland vegetation	To collate vegetation data in 2 pilot study areas.	Darroore, Peak District.	Used LFA as boundary of upland. Data collected from various sources- EN, NP, ADAS, RSPB, NT.	in a

Table 8.1: Review and evaluation of potential control data

Endpoint number	Quadrat/plot size	Years sampled	Duration (years)	Fixed unit	Indicators	Analysis	Statistical Issues	Applicable to wide range of habitats	Compatibility with AE data	Compatibility with other methods
	25 (c. 0.5m ²)	Sept and Oct 1996	<1	Yes	None mentioned.	Data entered into MapInfo GIS.		Yes	Requires further study.	Requires further study.
	152 (1 km ² (2 x 2m and stream plots 10 x 1 m)	1993	1	Yes		901 plots were used in the analysis. For the 12 squares selected from CS1999 a grid of 5 points was extracted from the relevant databases. GIS was used to create an Upland landscape mask using the ITE landscape. Two types of analysis have been carried out on the data. The first analysed according to the species they contain and second the species have been analysed according to their frequency of occurrence. The data have been allocated to structural vegetation types and classified using TWINSPLAN and ordered according to the principal gradient score (derived from DECORANA). The habitat indicator groups and species groups using DECORANA and Wards minimum clustering. Changes predicted in upland landscape using the TRISTAR model.	Yes	Yes	Yes, uses CS methods.	
	299 (n/a)	n/a	n/a	n/a	n/a	n/a	n/a	Yes	n/a	n/a
	303 (n/a)	n/a	n/a	n/a	n/a	n/a	n/a	no	n/a	n/a
	212 (2 x 2 m (usually)	April 1987- April 1988.	1	No	Some measure of species richness.	Quadrat data were analysed using TWINSPLAN and the endgroups compared to NVG endgroups and sub-communities using MAPINFO GIS. The data were compared with national data.	Yes	Yes	Yes	Yes
	151 (2 x 2m	1996-01			none mentioned	results presented as maps and graphs, only partially analysed.		Yes	Yes	Yes
	216 (100 x 50 cm	April 1987- April 1992	5	Yes	Species richness, diversity indices.	Analysis of the 2m quadrat data were carried out using PROC GLM SAS parameteric method where SAS was inappropriate. A posteriori tests between pairs of means were carried out using PROC GLM SAS. The analysis of the data was carried out using the following parameters: biomass and species richness and of diversity indices were performed on the mean values for the 4 quadrats taken from each plot. Analysis of variance was carried out using PROC GLM SAS. The ratio of the plot means between 1991 and 1988 and analysed by one way ANOVA using PROC GLM and Tukey's T-tests to identify significant differences.	Yes	yes - as a source of reference	Yes	
	246 (30m length.	1984, 1994	Over 10 years.		None mentioned.	None mentioned.	Yes	No	Yes	Yes

Table 8.1: Review and evaluation of potential control data

Endnote number	Title	Authors	Designation	Notes	Source of data	Format	Target Habitats	Monitoring objective	Scale	Sampling strategy	Field method
298	Ditch monitoring at Willand Marsh SSSI. Research Report No. 124.	English Nature	SSSI		Report	Report	Marsh, ditch.	To assess whether site still qualifies as SSSI on botanical basis for future monitoring and to enable assessment of effectiveness of Management Agreements on the SSSI.	Willand Marsh - just under 2000ha.	Numbering system used from previous 1985 survey to identify ditches. 334 ditches sampled.	Within each ditch, 20m section sampled. Presence of all species recorded. Dominance of any species recorded, also whether ditch was dry or choked.
295	A survey of ditch flora in the North Kent Marshes SSSI. Research Report No. 167.	English Nature	SSSI		Report	Report	Ditch flora	To provide survey data on ditch flora to identify botanical conservation objectives, provide a baseline for future monitoring and to enable assessment of effectiveness of Management Agreements on the SSSI. To assess whether there is a sufficient variety of flora and fauna in physical features influence floristic diversity of ditches and assess quality of grazing marsh outside the SSSIs.	North Kent Marshes.	450 ditches sampled in area, a proportion of which were outside SSSI.	Each ditch identified on map and representative 20m on each ditch sampled. Presence of all aquatic, emergent and semi-aquatic species recorded. Dominance of any species recorded, also whether ditch was dry or choked.
235	Botanical survey of marsh Dykes in Broadland. Broadland Authority, 1980.	Douglas, C.		Refs from endnote #31.	Report	Report	Marsh dykes	To review the nature and distribution of plant life in dykes of Broadland, to provide a baseline for future monitoring and to enable assessment of effectiveness of Management Agreements on the SSSI. To assess whether there is a sufficient variety of flora and fauna in physical features influence floristic diversity of ditches and assess quality of grazing marsh outside the SSSIs.	Lower Yare Valley, Norfolk	Sites selected on basis of records of 97 ornithologists' visits to Broadland and listing of the greatest ecological and conservation importance selected. 79% dykes selected.	Summary provided on listing. Data were used to determine the above ground macrophyte species present using a weed flag.
149	Current status and prospects for key habitats in England, 1997. Part 5. Waterside landscapes.	Barr, C.J. (ed)	5% of sites located in SSSIs, AONB, ESA and green belt.	Volume 5 of 6.	Report	Paper and GIS	Waterside landscapes	To establish a baseline of 5 key habitats included in the original Countryside Stewardship scheme, determine the extent and current ecological status and review their immediate prospects.	England	The study extended and developed the survey methodology used in the Countryside Stewardship scheme. Data from 32, 1km ² SSSI 1990 squares + 132 squares sampled in 1993. This survey did not attempt to locate the main occurrences of the selected habitats. Areas thought to be of the greatest ecological and conservation importance selected. 79% dykes selected.	No survey work performed, used data from CSI 1990 only.
130	Current status and prospects for key habitats in England, 1997. Part 4. Coastal landscapes.	Barr, C.J. (ed)	6% of sites located in SSSIs, AONB, ESA and green belt.	Volume 4 of 6.	Report	Paper and GIS	Coastal landscapes	To establish a baseline of 5 key habitats included in the original Countryside Stewardship scheme, determine the extent and current ecological status and review their immediate prospects.	England	The study extended and developed the survey methodology used in the Countryside Stewardship scheme. Data from 32, 1km ² SSSI 1990 squares + 132 squares sampled in 1993. This survey did not attempt to locate the main occurrences of the selected habitats. Areas thought to be of the greatest ecological and conservation importance selected. 79% dykes selected.	No survey work performed, used data from CSI 1990 only.
219	The saltmarsh survey of Great Britain: an inventory of British Bird, F. 17. NCC, Peterborough, 1988.				Report	Paper	Saltmarsh	To review existing information on the distribution and abundance of saltmarsh bird species in Great Britain, to produce a complete description of the resource to a minimum standard. This report was concerned with a national botanical survey rather than establishing a basis for monitoring and aimed to provide a basis for future management.	GB	The study extended and developed the survey methodology used in the Countryside Stewardship scheme. Data from 32, 1km ² SSSI 1990 squares + 132 squares sampled in 1993. This survey did not attempt to locate the main occurrences of the selected habitats. Areas thought to be of the greatest ecological and conservation importance selected. 79% dykes selected.	The site was sketched and communities mapped. A comprehensive and general information about the site was recorded.

Table 8.1: Review and evaluation of potential control data

Endnote number	Quadrat/plot size	Years sampled	Duration (years)	Fixed unit	Indicators	Analysis	Statistical Issues	Applicable to wide range of habitats	Compatibility with AE data	Compatibility with other methods
298	20m length	Summer 1993 and summer 1994	<2	Yes	None mentioned.	Results are summarised in report, full results in spreadsheet.		Ditches only	Yes	Yes
295	30m sections	1994, 1995	10 weeks	Not	None mentioned.	Data entered into Paradox, with grid references. Maps created. Points data used to generate map of ditches and adjacent land use, ditch widths and transect analysis.		No, ditches only.	Yes	Yes, possibly
236	6m	July - Sept 1980	<1	No		Repeatability using different techniques. This provides a method of representation of the similarity of each stand to every other stand or species. Grade of Ditch present in ditches mapped using a code.		No	No	No
149	1 km ² , 20m ² nested quadrats, 3 x 2m and 10 x 1 m waterside plots	1993	1 year	Yes	Species composition and frequency.	666 plots were used in the analysis. For all the 116 squares selected from CS 1993 an grid was placed over the square and the data for 5 points was extracted from the grid. Waterside plots were defined as an area of land within 150m of all waterways. Quadrats falling in the 150m zone around waterways were used in the analysis. Quadrats were classified for species composition and frequency. The quadrats have been allocated to structural vegetation types, classified using TWINSPLAN and ordered according to DECORANA analysis. Species have been allocated to habitat indicator groups and species groups using DECORANA and TWINSPLAN. Changes have been predicted in waterside landscapes using the TRISTAR2 model.		Yes	Yes	Yes, uses CS methods.
150	1 km ² (2 x 2m)	1993	1 year	Yes		478 plots were used in the analysis. For the 116 squares selected from CS 1993 an grid was placed over the square and the data for 5 points was extracted from the relevant databases. GIS was used to create an 'Costal landscape mask' by defining an area of land within 150m of all water mark. The quadrats have been analysed for species composition and frequency. The quadrats have been allocated to structural vegetation types, classified using TWINSPLAN and ordered according to DECORANA analysis. Species have been allocated to habitat indicator groups using DECORANA and TWINSPLAN. Changes have been predicted in coastal landscapes using the TRISTAR2 model.		Yes	Yes	Yes, uses CS methods.
219	None	1981	No	No	None mentioned	Data from previous reports were assigned to quadrats. This report was possible. Sketch maps were interpreted and re-drawn onto OS maps and areas calculated using a dot grid. Data stored in a database.	Data not directly comparable and a very broad method of data collection.	No - author does not recommend use of this method as a procedure for future monitoring	No	No

Table 8.1: Review and evaluation of potential control data

Endnote number	Title	Authors	Designation notes	Source of data	Format	Target habitats	Monitoring objective	Scale	Sampling strategy	Field method	
159	(http://www.rdg.ac.uk/~ecology/vegetation_survey_1994.htm) The National Woodland Inventory (NWI) survey, 1994. In: SSSI and SSSI Sites in the Cotswolds, SSSI, 1996, Scottish Natural Heritage Research, Survey and Monitoring Report No. 48.	Walton, D.D.	SSSI nature reserve site, geological, SSSI, and special protection area.	Report	Paper and paper maps	Habitats above the grassland, cliff edge, running open water, flush, heath, bog, heath, communities, scrub and remnant woodland.	To acquire baseline information on the distribution and abundance of habitats using the NVC classification.	425 ha.	Bromeliads between sub-communities, target note and quadrat (5 m x 5 m) recording methodology. Data quadrats taken. recorded onto NVC Record Sheets. Cover and abundance recorded according to the DOMIN scale. Qualitative notes as to the condition of the habitats at the time of survey were taken together with signs of present land use.		
237	Everson and vegetation change on the salmarshes of Essex and North Kent between 1973 and 1988. Research and Survey in Nature Conservation No. 42, English Nature, Rotherborough, 1992.	Burt, F.	SSSI, NNR	Report	Paper and maps and GIS.	Salmarsh	To determine the extent of erosion, to use information on salmarsh vegetation and sea level rise to discuss the erosion, to provide guidance on NCC's future policy to sea defense and to provide a series of detailed maps and to assess the use of GIS in determining future change.	Essex and North Kent.	The 1973 air photographs were taken into the field and validated by ground truth surveys at 7 salmarsh system zones. Background information also collected e.g., erosion, creeks, etc. Plant communities used in the survey were those of the NVC. Vegetation types described based on dominant sub-communities as identified by the NVC. Plant communities could be readily identified by 'eye'		
161	Salmarsh vegetation of the Walek: an assessment of change from 1971 - 1985. 1988. Research & Survey in Nature Conservation, No. 13. ISBN 036139464X.	Hill, M.I.	SSSI	Report	Paper	Salmarsh	To examine in detail the current vegetation, rates of accretion and likely future development in relation to the dates of their last reclamation and post management.	3,600 ha.	Using aerial photos and data from a previous study in 1971/74 comparisons were made along 12 line transects. The vegetation was divided into communities according to NVC.		
231	Woodlands 231 Woodland NVC surveys, 1986, 1991 in England and Wales, 1992. English Nature Research Reports No. 8	Cooke, R.J.		Report	Report	Woodland	To produce simple database of where woodland NVC types have been recorded.	England and Wales	2800 samples used from accessible sites.	NVC type recorded by surveyors using eye and/or single/multiple quadrats. No info from method.	
166	An NVC database for woodlands, Pooterborough, English Nature, 1996. English Nature Research Reports No. 181.	Hall, J.		Report	Report	Semi natural woodland	Part of integrated programme of monitoring and mapping. External threats to the nature conservation of woodland sites. Attempts to gain some measure of the condition, and make an assessment of features for which site was chosen for SSSI.	England	34 sites selected from list of 100 selected woodlands. No. of sites in local area identified as woodland SSSI, 100. Sample unit. Sample units = 157.	Condition assessment	
293, 217 now 224	Multiple Sample Survey of SSSI woodland. Research Report No. 301.	English Nature	SSSI	Report	Report	Woodland ground flora.	To monitor changes in ground flora between 1974 and 1991 so Wytham Woods, near Oxford, c320ha that conservation objectives can be met.	England and Wales	Plots arranged on systematic grid across woods. Alternate points < 2m high lined in 163 permanent plots a 100m x 100m grid.	Vascular plants < 2m high lined in 163 permanent plots across woods. % cover estimated.	
327	Changes in the ground flora of Wytham Woods, southern England from 1974 to 1991 - implications for nature conservation. Journal of Vegetation Science 11:871-880, 2000.	Kilby, K.J. and Thomas R.C.	No	Journal	Paper	Woodland ground flora.	To produce an objective, user-oriented classification of British woodland ecosystems, and a key to the classification for use by protected conservation areas.	National	105 woods were selected for the survey, chosen to encompass the range of variation within the semi-natural woodland of Britain. The 105 plots were surveyed. Full lists of the survey data are available. A nested quadrat system was used to record the vegetation present within each of the 200m2 plots surveyed. Individual trees were recorded throughout the survey. The data were classified into 105 types of vegetation. A representative site was selected from each group using objective numerical analysis of topographic and climatic data.	In each of the 103 selected woods, 16 randomly assigned 10m2 quadrats were surveyed. Full lists of the survey data are available. A nested quadrat system was used to record the vegetation present within each of the 200m2 plots surveyed. Individual trees were recorded throughout the survey. The data were classified into 105 types of vegetation. A representative site was selected from each group using objective numerical analysis of topographic and climatic data.	
330	National Woodland Survey, 1971.	CEH		Database	Paper	Woodland	To provide a more precise definition of the range of ecological variation in pinewoods than previously existed to enable the remaining native pinewoods in Scotland.	England and Wales	All the major native pinewoods identified in the book by Stevens & Cudde (1959) were included in the 1971 survey. In addition to the 105 plots, the other remaining native pinewood, was surveyed in 1972.		
331	Scottish Pinewood Survey, 1971.	CEH		Database	Paper	Woodland	To investigate the regeneration of a selection of woodland surveyed in the Scottish Pinewood Survey 1971.	England and Wales	Of the 27 pinewoods chosen for the 1971 survey, 7 were selected for re-survey to look at regeneration.		
332	Scottish Pinewood Survey, 1973.	CEH		Database	Paper	Woodland		England and Wales	419 x 200m2 plots were surveyed throughout the selected woods		

Table 8.1: Review and evaluation of potential control data

Endnote number	Title	Authors	Designation	Notes	Source of data	Format	Target Habitats	Monitoring objective	Scale	Sampling strategy	Field method
181	A standardised procedure for ecological survey. Journal of Environmental Management, 1: 259-264.	Bunce, R.G.H., Shaw, M.W.		First part of paper devoted to the principles of ecological survey itself, although does state that the data are in the process of being analysed.	Journal paper	Paper	Woodland	To produce an objective, user orientated classification of woodland ecosystem for use by practical conservationists.	105 woodlands throughout OH. Representative of those 7-10h.	Each site was designed to collect standardised data in which the total site was sampled at 16 randomly located points and summarised where not. 16 plots per site regardless of woodland type specimens kept. All vascular plants were recorded from the successive plot sizes. Cover was estimated as a % which could be converted to scales such as the species (1-10). Species were recorded as present or absent and height of the tree with the largest diameter.	
305	A provincial minimum intervention woodland reserve series for England with proposals for baseline recording and monitoring therein. English Nature Research Reports No. 385. 2000.	English Nature			Report	Report	Woodland	An attempt to provide a draft list of minimum intervention sites based on readily available data and see how well this represents the range of semi-natural woodland types found in England. Suggests proposals for long term monitoring in minimum intervention woodlands sites.	n/a	Inventory compiled from old estate maps, OS first edition maps and subsequent OS maps, and field surveys done by Birk in 1977 and Eyreton Mason in 1986.	n/a
319	Inventory of Ancient Woodland for Shropshire. English Nature. Peterborough. 1988.	English Nature		Refs from endnote #48.	Report	Site inventory	Woodland	Inventory compiled from old estate maps, OS first edition maps and subsequent OS maps, and field surveys done by Birk in 1977 and Eyreton Mason in 1986.	Shropshire	Inventory compiled from old estate maps, OS first edition maps and subsequent OS maps, and field surveys done by Birk in 1977 and Eyreton Mason in 1986.	n/a
	Inventory of Ancient Woodland for Devon. English Nature. Peterborough. 1988.	English Nature			Report	Site inventory	Woodland	A combination of several sources of information used to identify ancient woodland sites.	Devon	Inventory compiled from old estate maps, OS first edition maps and subsequent OS maps, aerial photos and field surveys.	n/a
251	Somerset Inventory of Ancient Woodland. 1986. NCC. Peterborough.	Lister, J.A., Pines, A.L.		Refs from endnote #40.	Report	Site inventory	Woodland	A combination of several sources of information used to identify ancient woodland sites.	Somerset	Inventory compiled from old estate maps, OS first edition maps and subsequent OS maps, aerial photos and field surveys.	n/a
	Additional habitats				Report	Report	Florplain	n/a	n/a	n/a	n/a
221	The Effectiveness of the Florplain BSA Schemes in the Maintenance and Enhancement of Biodiversity. English Nature Research Report No. 364.	Parish, B.	BSA	Not a survey but information gained from a literature review and structured interviews with IN and PRCA staff.	Report	Report	Florplain	n/a	n/a	n/a	n/a
	Hedgerows				Report	Report & GIS	Hedgerows	To assess the changes (between 1990 and 1993) in hedgerow E & W occurring between 1990 and 1993 in selected landscapes and compare the results with earlier surveys. A secondary aim was to assess the relationship between land use and hedgerow change.	E & W	The survey design was identical to CSI 1990, other than this survey was constrained to EKW. Following analysis of the 1990 data for the following reasons: a) Only those squares in E & W were initially selected by those square currently being surveyed for other reasons b) The squares in E & W were also removed from the data that did not have hedges in 1990 were also removed thus leaving 166 squares available to be surveyed. These were further surveyed stratified according to the ITE land classification resulting in 108 squares being sampled.	Identical to previous CS surveys. Each length of boundary was mapped and described using a combination of coded attributes.
219	Hedgerow survey 1993. 1994. Report to DOE	Barr, C.J., Gillespie, M., Howard, D.			Report	Report	Hedgerows				
	Scotland				Report	Report	General	The terrestrial component of a larger survey to assess the impact of woodland on the environment. The survey was carried out to assess the environmental impact of oil exploration related developments in the area, and to form basis for monitoring change. The specific objectives of the terrestrial component were: 1. To assess the range of variation within the area. 2. To provide a structural basis for monitoring future change in the vegetation.	Shetland	The land area of the Shetland Isles was stratified based on its 15 local government districts. The 15 districts were further divided into 25m ² x 25m ² grid squares. 16 distinct strata, and within each 5 x 1km ² were randomly selected. Each 1km ² selected was split down into 16 sub-squares, and a 200m ² plot was randomly selected from within each sub-square. An estimated percentage cover for each stratum was calculated. In total 927 plots were selected, although only 912 plots were actually surveyed as some were inaccessible or in crop fields.	Vegetation Data. A nested quadrat system was used to collect standardised data in which the total site was sampled at 16 randomly located points and summarised where not. 16 plots per site regardless of woodland type specimens kept. All vascular plants were recorded from the successive plot sizes. Cover was estimated as a % which could be converted to scales such as the species (1-10). Species were recorded as present or absent and height of the tree with the largest diameter.
335	Terrestrial Survey of Shetland, 1974.	CEH			CEH	Paper	General				
157	Scottish blanket bog inventory. Marj Riebel, Wester Ross - site reporting and mapping. Series Title: (Scottish Natural Heritage no. 01). Edinburgh: Scottish Natural Heritage, 1997. Edited by Reid, E.	Everingham, F.			Report	Paper & GIS	Blanket bog	To produce detailed vegetation map of the NVC mire communities present (and others if present), delineate features such as mire erosion, peat depth, microtopography. Secondary objectives were to map the presence and extent of Betula nana and Sphagnum paludosum.	Site surveyed is 2,800 ha but SNH extended this by 700 ha north in their own survey.	SNH completed their own survey at the same time as this contract was completed therefore the 2 surveys have been combined in this report. General features of the site recorded e.g. altitude, SSSI status, mire erosion, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (192 taken in total).	Site walked by one surveyor - standard survey forms provided by SNH. If NVC community unable to be determined then site recorded as 'other'. Detailed information on vegetation present together with cover (i.e. dominant) and height, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (182 taken in total).
158	Scottish blanket bog inventory. Invernessdale - site reporting and mapping. Series Title: (Scottish Natural Heritage no.84). Balfour: Scottish Natural Heritage, 1998. Edited by Reid, E.	Everingham, E.			Report	Paper & GIS	Blanket bog	To produce detailed vegetation map of the NVC mire communities present (and others if present), delineate features such as mire erosion, peat depth, microtopography.	Site is 2,100 ha, minimum mappable area is 0.125 ha.	General features of the site recorded e.g. altitude, SSSI status. Detailed information on vegetation present together with cover (i.e. dominant) and height, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (182 taken in total).	Site walked by one surveyor - standard survey forms provided by SNH. If NVC community unable to be determined then site recorded as 'other'. Detailed information on vegetation present together with cover (i.e. dominant) and height, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (182 taken in total).
155	Scottish blanket bog inventory. Bannoch, Scudburgh, north Uist - site reporting and mapping. Series Title: (Scottish Natural Heritage no.110). Balfour: Scottish Natural Heritage, 1998. Edited by Reid, E.	Everingham, F.			Report	Paper & GIS	Blanket bog	To produce detailed vegetation map of the NVC mire communities present (and others if present), delineate features such as mire erosion, peat depth, microtopography.	Site is 5,700 ha, min mappable area is 0.125ha.	General features of the site recorded e.g. altitude, SSSI status. Detailed information on vegetation present together with cover (i.e. dominant) and height, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (192 taken in total).	Site walked by one surveyor - standard survey forms provided by SNH. If NVC community unable to be determined then site recorded as 'other'. Detailed information on vegetation present together with cover (i.e. dominant) and height, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (192 taken in total).
156	Scottish blanket bog inventory. Bannoch, More site of special scientific interest - site reporting and mapping. Series Title: (Scottish Natural Heritage no.91). Edinburgh: Scottish Natural Heritage, 1997. Edited by Reid, E.	Everingham, F.	SSSI and NNR		Report	Paper & GIS	Blanket bog	To produce detailed vegetation map of the NVC mire communities present (and others if present), delineate features such as mire erosion, peat depth, microtopography. Secondary objective was to map the presence and extent of Betula nana and Sphagnum paludosum.	Site surveyed is 9,300 ha.	General features of the site recorded e.g. altitude, SSSI status. Detailed information on vegetation present together with cover (i.e. dominant) and height, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (192 taken in total).	Site walked by one surveyor - standard survey forms provided by SNH. If NVC community unable to be determined then site recorded as 'other'. Detailed information on vegetation present together with cover (i.e. dominant) and height, peat depth, erosion, burning, damage, slope and quadrat data gathered from each distinct, homogeneous vegetation community (192 taken in total).

Table 8.1: Review and evaluation of potential control data

Enduse number	Quadrat/plot size and time	Years sampled	Duration (years)	Fixed unit	Indicators	Analysis	Statistical Issues	Applicable to wide range of habitats	Compatibility with AF data	Compatibility with other methods
181/20m ² 4-plot sizes (placed within 100, 50, 25 1971 (summer) and 1972)	n/a	n/a	n/a	Yes	None mentioned.	No attempt is made to deal with numerical data from the survey classified by species into separate analyses (see review papers (Cormack, 1971 and Williams 1971).	n/a	Yes	Yes	Yes, uses CS methods.
302	n/a	n/a	n/a	n/a	n/a	n/a	n/a	No	n/a	n/a
317	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
251	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
221	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
218 (Each length of boundary marked within a 1 km square.	218 (Each length of boundary marked within a 1 km square.	September 1993 - Jun 1994.	1	n/a	Not mentioned, just stock and change measured.	All original livestock was computerised using GIS and attribute data entered into a database. The databases containing the 1990 and 1993 data were compared and estimates made of stock and change. The estimates were then used to generate overall grid class estimates for E & W	n/a	Yes, uses CS methods.	Yes	Yes, uses CS methods.
335 (Species were recorded successively from 4m ² quadrats, 10m ² and the full 200m ² quadrats.	335 (Species were recorded successively from 4m ² quadrats, 10m ² and the full 200m ² quadrats.	1974	1	n/a	n/a	n/a	n/a	Yes, uses CS methods.	Yes, uses CS methods.	Yes, uses CS methods.
157/2 x 2m	157/2 x 2m	1996	1 (only between 13-27 July).	n/a	None mentioned - just results of a survey.	Quadrat data sorted into different vegetation communities and fitted (keyed) to the closest NYC communities. MATCH was used on some occasions.	Some quadrats proved difficult to assign with a high level of confidence (even when MATCH was used) reasons proposed for this include: poor vegetation condition, lack of samples in the original NYC.	Method yes, no analysis performed.	Possibly - NYC not always quadrats.	Possibly - NYC not always quadrats.
158/2 x 2m	158/2 x 2m	1995	1 (only during 18-26 November).	n/a	None mentioned - just results of a survey.	Quadrat data sorted into different vegetation communities and fitted (keyed) to the closest NYC communities. MATCH was used on some occasions.	Due to the biomass of the season and due to weather conditions making access difficult to some quadrats. Some quadrats proved difficult to assign with a high level of confidence (even when MATCH was used). Reasons proposed for this include limited cover of a vegetation community, poor weather conditions, lack of samples in the original NYC.	Method yes, no analysis performed.	Possibly - NYC not always quadrats.	Possibly - NYC not always quadrats.
155/2 x 2m	155/2 x 2m	1995	1 (only during 3d 19th September).	n/a	None mentioned - just results of a survey.	Quadrat data sorted into different vegetation communities and fitted (keyed) to the closest NYC communities. MATCH was used on some occasions.	Some quadrats proved difficult to assign with a high level of confidence (even when MATCH was used) reasons proposed for this include limited cover of a vegetation community, poor weather conditions, lack of samples in the original NYC.	Method yes, no analysis performed.	Possibly - NYC not always quadrats.	Possibly - NYC not always quadrats.
156/2 x 2m	156/2 x 2m	1996	1 (only between 1st 29 June).	n/a	None mentioned - just results of a survey.	Quadrat data sorted into different vegetation communities and fitted (keyed) to the closest NYC communities. MATCH was used on some occasions.	Some quadrats proved difficult to assign with a high level of confidence (even when MATCH was used) reasons proposed for this include: lack of representative survey quadrats, poor weather conditions, poor vegetation condition, poor weather conditions or lack of samples in the original NYC).	Method yes, no analysis performed.	Possibly - NYC not always quadrats.	Possibly - NYC not always quadrats.

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Endnote number	Title	Authors	Designation	notes	Source of data	Format	Target Habitats	Monitoring objective	Scale	Sampling strategy	Field method
22)	National Countryside Monitoring Scheme: LCS Integration, 1991: Scottish Natural Heritage Report No. 25.	Brooker, N.			Report	Report & GIS.	na	To integrate National Countryside monitoring scheme data with the National Countryside Monitoring Scheme (NCMS) database, provide a framework for compiling NCMS results independently of regional stratification and develop an understanding of different strata definitions and standardized data cover descriptions and statistics for Scotland.	Scotland	NCMS - study of changes of Scotland's land cover for post-war period. Based on 1991 aerial photos as source data. LCS 88 - national census of land cover using air photos, field validation and computer aided interrogation of digitized data.	na
21)	NYC review of Scottish grassland surveys, 1996. Scottish National Heritage Report No. 65.	Cooper, E., Mackintosh, J.		Report before, however the information contained in 22 reports of Scottish lowland grassland surveys undertaken between 1986 and 1995.	Report	Report	Grassland	na	na	na	na
21)	Woodland change 1971-1998 in north-west England and south-west Scotland - a full survey, 2000. JNCC Report No. 306.	and so on; R.G.H., Hursi, N.	some SSSIs	Botanical survey	Report	Paper	Woodlands	To re-survey woods, previously surveyed in 1971, to make a comparison of changes in tree and vegetation within native woodlands and suggest reasons for changes.	12 woods in northern England and south west Scotland.	12 woods surveyed using same methodology as 1971, but using 8 photos for each quadrat. Degree of correction made for steep incline.	Search for vascular plants made in central quadrat of each quadrat. Only species not recorded in previous quadrats recorded in subsequent quadrats. Final cover estimated as % of largest quadrat.
	N Ireland										
24)	Survey of fens in Down and Antrim, 1995. Unpublished Northern Ireland Department of Environment, Belfast.			via JNCC website report no. 312							

