

APPENDIX10.4

TABLES OF PLANT SPECIES LISTS FOR WIDNES WARTH SALTMARSH,  
ASTMOOR SALTMARSH AND CUERDLEY SALTMARSH

**TABLE 1 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE WESTERN SECTION OF WIDNES WARTH SALTMARSH (AREA C)**

Map: North-west		Survey date: 19/08/2002	
Grid square: 515845			
Scientific name	Common name	Abundance	Cover
<b>Monocotyledon species</b>			
<i>Agrostis stolonifera</i>	Creeping Bent	LD*	40%
<i>Alopecurus geniculatus</i>	Marsh Foxtail	LA	1%
<i>Carex otrubae</i>	False Fox Sedge	VLF	<1%
<i>Elytrigia atherica</i>	Sea Couch	LA	20%
<i>Festuca rubra</i>	Creeping Fescue	LA	5%
<i>Holcus lanatus</i>	Yorkshire Fog	LF	1%
<i>Iris pseudacorus</i>	Yellow Iris	R	<1%
<i>Lolium perenne</i>	Perennial Ryegrass	VL	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	VLF	<1%
<i>Phragmites australis</i>	Common Reed	VLA	<1%
<i>Puccinellia maritima</i>	Common Saltmarsh-grass	LD*	30%
<i>Scirpus maritimus</i>	Sea Club-rush	LA	<1%
<i>Triglochin maritima</i>	Sea Arrowgrass	VL	<1%
<b>Dicotyledon species</b>			
<i>Angelica sylvestris</i>	Wild Angelica	VL	<1%
<i>Aster tripolium</i>	Sea Aster	LF	2%
<i>Atriplex littoralis</i>	Grass-leaved Orache	VL	<1%
<i>Atriplex prostrata</i>	Spear-leaved Orache	LA	20%
<i>Cirsium arvense</i>	Creeping Thistle	LF	<1%
<i>Cochlearia anglica</i>	English Scurvy-grass	LF	<1%
<i>Cochlearia officinalis</i>	Common Scurvy-grass	LF	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	VLA	<1%
<i>Glaux maritima</i>	Sea Milkwort	LA	1%
<i>Hypochoeris radicata</i>	Common Cat's-ear	VLF	<1%
<i>Lactuca serriola</i>	Prickly Lettuce	R	<1%
<i>Lycopus eurpaeus</i>	Gipsywort	VL	<1%
<i>Plantago maritima</i>	Sea Plantain	LF	<1%
<i>Persicaria hydropiper</i>	Water-pepper	VL	<1%
<i>Potamogeton pectinatus</i>	Fennel Pondweed	VLF	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	VLF	<1%
<i>Ranunculus sceleratus</i>	Celery-leaved Buttercup	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	VLF	<1%
<i>Senecio vulgaris</i>	Groundsel	R	<1%
<i>Smyrniium olusatrum</i>	Alexanders	VLF	<1%
<i>Sonchus arvensis</i>	Perennial Sow-thistle	VL	<1%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	VLF	<1%
<i>Spartina anglica</i>	Common Cord-grass	VLF	<1%
<i>Spergularia media</i>	Greater Sea-spurrey	VLF	<1%
<i>Taraxacum officinale</i>	Dandelion	VLF	<1%
<i>Tripleurospermum maritimum</i>	Sea Mayweed	VL	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = constant species.

**TABLE 2 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE CENTRAL SECTION OF WIDNES WARTH SALTMARSH (AREA E)**

Maps: North-west and north-east

Survey date: 19/08/2002

Grid squares: 520845, 525845, 525850

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Prunus spinosa</i>	Blackthorn	VLA	<1%
<i>Salix fragilis</i>	Crack Willow	R	<1%
<b>Monocotyledon species</b>			
<i>Agrostis stolonifera</i>	Creeping Bent	LD*	80%
<i>Alopecurus geniculatus</i>	Marsh Foxtail	LA	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	VLF	<1%
<i>Dactylis glomerata</i>	Cocksfoot	R	<1%
<i>Elytrigia atherica</i>	Sea Couch	LA	5%
<i>Festuca rubra</i>	Creeping Fescue	LA	5%
<i>Juncus gerardii</i>	Saltmarsh Rush	VLA	<1%
<i>Holcus lanatus</i>	Yorkshire Fog	VLF	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	VLF	<1%
<i>Poa pratensis</i>	Smooth Meadow-grass	VL	<1%
<i>Puccinellia maritima</i>	Common Saltmarsh-grass	LA	5%
<i>Spartina anglica</i>	Common Cord-grass	VL	<1%
<i>Triglochin maritima</i>	Sea Arrowgrass	LF	<1%
	Algal mat	VLA	<1%
<b>Dicotyledon species</b>			
<i>Artemisia vulgaris</i>	Mugwort	VLF	<1%
<i>Aster tripolium</i>	Sea Aster	VLF	2%
<i>Atriplex prostrata</i>	Spear-leaved Orache	LA	30%
<i>Cirsium arvense</i>	Creeping Thistle	LF	<1%
<i>Cochlearia officinalis</i>	Common Scurvy-grass	LA	1%
<i>Epilobium hirsutum</i>	Great Willowherb	VLA	<1%
<i>Epilobium palustre</i>	Marsh Willowherb	R	<1%
<i>Glaux maritima</i>	Sea Milkwort	LF	<1%
<i>Hypochoeris radicata</i>	Common Cat's-ear	R	<1%
<i>Lactuca serriola</i>	Prickly Lettuce	VLF	<1%
<i>Leontodon hispidus</i>	Rough Hawkbit	R	<1%
<i>Oenanthe crocata</i>	Hemlock Water Dropwort	VL	<1%
<i>Plantago maritima</i>	Sea Plantain	LF	<1%
<i>Persicaria maculosa</i>	Redshank	R	<1%
<i>Ranunculus sceleratus</i>	Celery-leaved Buttercup	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	VL	<1%
<i>Scirpus maritimus</i>	Sea Club-rush	LF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	VLF	<1%
<i>Senecio vulgaris</i>	Groundsel	VL	<1%
<i>Smyrnium olusatrum</i>	Alexanders	VL	<1%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	LF	<1%
<i>Spergularia marina</i>	Lesser Sea-spurrey	LA	<1%
<i>Taraxacum officinale</i>	Dandelion	VL	<1%
<i>Tripleurospermum maritimum</i>	Sea Mayweed	VL	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = constant species.

**TABLE 3 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE MARGINS OF THE TOP OF THE OUTLET BUND AT WIDNES WARTH SALT MARSH (AREA Da)**

Map: North-west

Grid square: 520845,

Survey date: 19/08/2002

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Rubus fruticosus</i> agg.	Bramble	VA*	3%
<i>Sambucus nigra</i>	Elder	VLF	<1%
<b>Monocotyledon species</b>			
<i>Agrostis capillaris</i>	Common Bent	LF	<1%
<i>Agrostis stolonifera</i>	Creeping Bent	LF	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	LD*	80%
<i>Dactylis glomerata</i>	Cocksfoot	LF	2%
<i>Elytrigia atherica</i>	Sea Couch	LA	5%
<i>Holcus lanatus</i>	Yorkshire Fog	LF	3%
<b>Dicotyledon species</b>			
<i>Angelica sylvestris</i>	Wild Angelica	VLF	<1%
<i>Anthriscus sylvestris</i>	Cow Parsley	VLF	<1%
<i>Artemisia vulgaris</i>	Mugwort	VLF	<1%
<i>Atriplex prostrata</i>	Spear-leaved Orache	LF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LF	3%
<i>Cirsium vulgare</i>	Spear Thistle	VL	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	VL	<1%
<i>Galium aparine</i>	Cleavers	LF	<1%
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	VL	<1%
<i>Lactuca serriola</i>	Prickly Lettuce	VL	<1%
<i>Oenanthe crocata</i>	Hemlock Water Dropwort	LF	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	VLF	<1%
<i>Persicaria hydropiper</i>	Water-pepper	VL	<1%
<i>Persicaria maculosa</i>	Redshank	VLF	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	LA	3%
<i>Rumex conglomeratus</i>	Clustered Dock	LF	<1%
<i>Sonchus arvensis</i>	Perennial Sow-thistle	LA	2%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	VL	<1%
<i>Taraxacum officinale</i>	Dandelion	O	<1%
<i>Trifolium repens</i>	White Clover	VLF	<1%
<i>Tripleurospermum inodorum</i>	Scentless Mayweed	VL	<1%
<i>Urtica dioica</i>	Common Nettle	LA/VLD	3%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = constant species.

**TABLE 4 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE MARGINS OF THE OUTLET DITCH AT THE FOOT OF THE BANKS AT WIDNES WARTH SALT MARSH (AREA Db).**

**Map:** North-west

**Grid square:** 520845,

**Survey date:** 19/08/2002

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Rubus fruticosus</i> agg.	Bramble	VLF	<1%
<b>Monocotyledon species</b>			
<i>Agrostis stolonifera</i>	Creeping Bent	LA	30%
<i>Arrhenatherum elatius</i>	False Oat-grass	VLF	<1%
<i>Elytrigia atherica</i>	Sea Couch	LD*	60%
<i>Festuca rubra</i>	Creeping Fescue	VL	<1%
<i>Holcus lanatus</i>	Yorkshire Fog	VL	<1%
<b>Dicotyledon species</b>			
<i>Aster tripolium</i>	Sea Aster	LA	10%
<i>Atriplex prostrata</i>	Spear-leaved Orache	LA	10%
<i>Cirsium arvense</i>	Creeping Thistle	LF	1%
<i>Plantago lanceolata</i>	Ribwort Plantain	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	VLF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	VL	<1%
<i>Sonchus arvensis</i>	Perennial Sow-thistle	VLF	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = constant species.

**TABLE 5 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE RAISED AREA OF NEUTRAL GRASSLAND TO THE NORTH OF WIDNES WARTH SALT MARSH (AREA B)**

Map: North-west

Grid square: 515845

Survey date: 19/08/2002

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Prunus spinosa</i>	Blackthorn	LF	<1%
<b>Monocotyledon species</b>			
<i>Agrostis stolonifera</i>	Creeping Bent	COD*	45%
<i>Arrhenatherum elatius</i>	False Oat-grass	LF	1%
<i>Dactylis glomerata</i>	Cocksfoot	LF	2%
<i>Elytrigia atherica</i>	Sea Couch	LF	1%
<i>Festuca rubra</i>	Creeping Fescue	COD*	45%
<i>Holcus lanatus</i>	Yorkshire Fog	LA	10%
<i>Lolium perenne</i>	Perennial Ryegrass	VL	<1%
<b>Dicotyledon species</b>			
<i>Achillea millefolium</i>	Yarrow	LF	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	LF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LF	<1%
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	LF	<1%
<i>Geranium molle</i>	Dove's-foot Crane's-bill	VL	<1%
<i>Hypochoeris radicata</i>	Common Cat's-ear	LF	<1%
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	LA	2%
<i>Medicago lupulina</i>	Black Medick	LF	<1%
<i>Pilosella officinarum</i>	Mouse-ear Hawkweed	VL	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	LA	2%
<i>Ranunculus repens</i>	Creeping Buttercup	LF	2%
<i>Rumex acetosa</i>	Common Sorrel	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	VLF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	VLF	<1%
<i>Taraxacum officinale</i>	Dandelion	O	<1%
<i>Tragopogon pratensis</i>	Goat's-beard	R	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = constant species.

**TABLE 6 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE RAISED AREA OF NEUTRAL GRASSLAND NORTH OF WIDNES WARTH SALT MARSH (AREA A).**

**Map:** North-west

**Survey date** = 19/08/2002

**Grid square** = 515845

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Hippophae rhamnoides</i>	Sea Buckthorn	VL	<1%
<i>Prunus spinosa</i>	Blackthorn	LF	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LF	<1%
<b>Monocotyledon species</b>			
<i>Agrostis capillaris</i>	Common Bent	LA	5%
<i>Agrostis stolonifera</i>	Creeping Bent	LA	10%
<i>Arrhenatherum elatius</i>	False Oat-grass	LVA*	25%
<i>Bromus hordeaceus</i>	Soft Brome	LF	1%
<i>Dactylis glomerata</i>	Cocksfoot	LA	10%
<i>Elytrigia repens</i>	Common Couch	LA	15%
<i>Festuca rubra</i>	Creeping Fescue	LA	10%
<i>Holcus lanatus</i>	Yorkshire Fog	LA	25%
<i>Poa annua</i>	Annual Meadow-grass	LF	1%
<i>Poa trivialis</i>	Rough Meadow-grass	LF	1%
<b>Dicotyledon species</b>			
<i>Achillea millefolium</i>	Yarrow	LF	2%
<i>Cerastium fontanum</i>	Common Mouse-ear	LF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LA	5%
<i>Cirsium vulgare</i>	Spear Thistle	O	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	VL	<1%
<i>Galium aparine</i>	Cleavers	VL	<1%
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	VL	<1%
<i>Geranium molle</i>	Dove's-foot Crane's-bill	LF	<1%
<i>Heracleum sphondylium</i>	Hogweed	VL	<1%
<i>Hypochoeris radicata</i>	Common Cat's-ear	LF	<1%
<i>Lotus corniculatus</i>	Common Bird's-foot-trefoil	LF	<1%
<i>Medicago lupulina</i>	Black Medick	VLF	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	LA	3%
<i>Potentilla reptans</i>	Creeping Cinquefoil	VLA	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	LF	2%
<i>Rumex acetosa</i>	Common Sorrel	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	VL	<1%
<i>Rumex obtusifolius</i>	Broad-leaved Dock	VLF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	LA	3%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	VL	<1%
<i>Taraxacum officinale</i>	Dandelion	LF	<1%
<i>Tussilago farfara</i>	Coltsfoot	VL	<1%
<i>Urtica dioica</i>	Common Nettle	LF	2%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = constant species.

**TABLE 7 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE EASTERN SECTION OF WIDNES WARTH SALTMARSH (AREA F)**

Map: North-east

Survey date: 23/08/2002

Grid square: 530850, 535850

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Betula pendula</i>	Silver Birch	R	<1%
<i>Cornus sanguinea</i>	Dogwood	VL	<1%
<i>Prunus</i> sp.	Cherry species	VL	<1%
<i>Prunus spinosa</i>	Blackthorn	VLA	<1%
<i>Quercus robur</i>	Pedunculate Oak	VL	<1%
<i>Rubus fruticosus</i> agg.	Bramble	LF/VLA	<1%
<i>Salix caprea</i>	Goat Willow	VL	<1%
<i>Salix fragilis</i>	Crack Willow	VLF	<1%
<i>Salix viminalis</i>	Osier	R	<1%
<i>Sambucus nigra</i>	Elder	R	<1%
<i>Sorbus aria</i>	Whitebeam	VL	<1%
<i>Sorbus aucuparia</i>	Rowan	R	<1%
<b>Monocotyledon species</b>			
<i>Agrostis capillaris</i>	Common Bent	LF	1%
<i>Agrostis stolonifera</i>	Creeping Bent	LF	3%
<i>Alopecurus geniculatus</i>	Marsh Foxtail	VLA	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	LF	5%
<i>Elytrigia atherica</i>	Sea Couch	LA	60%
<i>Festuca arundinacea</i>	Tall Fescue	VL	<1%
<i>Festuca rubra</i>	Creeping Fescue	LF	3%
<i>Holcus lanatus</i>	Yorkshire Fog	LF	1%
<i>Iris pseudacorus</i>	Yellow Iris	VL	<1%
<i>Lolium perenne</i>	Perennial Ryegrass	VLF	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	LF	2%
<i>Phleum pratense</i>	Timothy	VLF	<1%
<i>Phragmites australis</i>	Common Reed	LF/VLA	10%
<i>Poa annua</i>	Annual Meadow-grass	VLA	<1%
<i>Puccinellia maritime</i>	Common Saltmarsh-grass	LF	2%
<i>Scirpus maritimus</i>	Sea Club-rush	LA	5%
<i>Spartina anglica</i>	Common Cord-grass	LF	<1%
<i>Triglochin maritima</i>	Sea Arrowgrass	VLF	<1%
	Algal mat	LA	2%
<b>Dicotyledon species</b>			
<i>Angelica sylvestris</i>	Wild Angelica	VL	<1%
<i>Anthriscus sylvestris</i>	Cow Parsley	VLF	<1%
<i>Artemisia vulgaris</i>	Mugwort	LF	<1%
<i>Aster tripolium</i>	Sea Aster	LA	5%
<i>Atriplex prostrata</i>	Spear-leaved Orache	LA	10%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	LF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LF	<1%
<i>Cirsium vulgare</i>	Spear Thistle	VL	<1%
<i>Convolvulus arvensis</i>	Field Bindweed	LA	3%
<i>Crepis capillaris</i>	Smooth Hawk's-beard	R	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	LF/VLA	1%
<i>Eupatorium cannabinum</i>	Hemp-agrimony	VLF	<1%
<i>Galium aparine</i>	Cleavers	VLF	<1%
<i>Glaux maritime</i>	Sea Milkwort	LF	<1%
<i>Heracleum spondylium</i>	Hogweed	VL	<1%

Continued

**TABLE 7 CONTINUED**

Scientific name	Common name	Abundance	Cover
<i>Lactuca serriola</i>	Prickly Lettuce	VL	<1%
<i>Lamium album</i>	White Dead-nettle	VL	<1%
<i>Plantago major</i>	Greater Plantain	VLF	<1%
<i>Plantago maritime</i>	Sea Plantain	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	O	<1%
<i>Salicornia</i> agg.	Glasswort	VL	<1%
<i>Senecio jacobaea</i>	Common Ragwort	VL	<1%
<i>Smyinium olusatrum</i>	Alexanders	VL	<1%
<i>Solanum dulcamara</i>	Bittersweet	VLF	<1%
<i>Sonchus arvensis</i>	Perennial Sow-thistle	LA	3%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	VL	<1%
<i>Spergularia marina</i>	Lesser Sea-spurrey	VLF	<1%
<i>Stachys palustris</i>	Marsh Woundwort	VLF	<1%
<i>Suaeda maritima</i>	Annual Seablite	VL	<1%
<i>Tanacetum vulgare</i>	Tansy	VLF	<1%
<i>Taraxacum officinale</i>	Dandelion	VL	<1%
<i>Trifolium repens</i>	White Clover	VLF	<1%
<i>Tripleurospermum maritimum</i>	Sea Mayweed	VLF	<1%
<i>Tussilago farfara</i>	Coltsfoot	VLF	<1%
<i>Urtica dioica</i>	Common Nettle	VLF/LA	1%
<i>Vicia hirsuta</i>	Hairy Tare	VLF	<1%
<i>Vicia sepium</i>	Bush Vetch	VLF	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = constant species.



TABLES OF SPECIES LISTS FOR ASTMOOR SALTMARSH AND CUERDLEY SALTMARSH

**TABLE 8 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF ASTMOOR SALTMARSH, RUNCORN**

**Maps:** South-west, north-east and south-east  
**Grid squares:** 535845, 525835, 530825, 530840, 535840  
**Survey dates:** = 27, 28 and 30/08/2002

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Rosa</i> sp.	Rose species	R	<1%
<i>Rubus fruticosus</i> agg.	Bramble	VLF	<1%
<i>Sambucus nigra</i>	Elder	R	<1%
<b>Monocotyledon species</b>			
<i>Agrostis capillaris</i>	Common Bent	VL	<1%
<i>Agrostis stolonifera</i>	Creeping Bent	VLF	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	VLF	<1%
<i>Carex otrubae</i>	False Fox sedge	VLA	<1%
<i>Dactylis glomerata</i>	Cocksfoot	VL	<1%
<i>Elytrigia atherica</i>	Sea Couch	D*	90%
<i>Festuca rubra</i>	Creeping Fescue	LF	1%
<i>Glyceria maxima</i>	Reed Sweet grass	VLF	<1%
<i>Holcus lanatus</i>	Yorkshire Fog	VL	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	VLF	<1%
<i>Phragmites australis</i>	Common Reed	LA	1%
<i>Poa pratensis</i>	Smooth Meadow-grass	VL	<1%
<i>Puccinellia maritima</i>	Common Saltmarsh-grass	LA	3%
<i>Scirpus maritimus</i>	Sea Club-rush	LA	1%
<i>Spartina anglica</i>	Common Cord-grass	VL	<1%
<i>Typha latifolia</i>	Bulrush	VL	<1%
	Algal mat	VLA	<1%
<b>Dicotyledon species</b>			
<i>Apium graveolens</i>	Wild Celery	VL	<1%
<i>Artemisia vulgaris</i>	Mugwort	VL	<1%
<i>Aster tripolium</i>	Sea Aster	LA	2%
<i>Atriplex prostrata</i>	Spear-leaved Orache	LA	3%
<i>Calystegia sepium</i>	Hedge Bindweed	VLA	<1%
<i>Cerastium fontanum</i>	Common Mouse-ear	VLF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	VL	<1%
<i>Cochlearia officinalis</i>	Common Scurvy-grass	VLF	<1%
<i>Convolvulus arvensis</i>	Field Bindweed	VLF	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	LA	<1%
<i>Eupatorium cannabinum</i>	Hemp Agrimony	VLF	<1%
<i>Galium aparine</i>	Cleavers	VLF	<1%
<i>Glaux maritima</i>	Sea Milkwort	VLF	<1%
<i>Heracleum sphondylium</i>	Hogweed	VL	<1%
<i>Lactuca serriola</i>	Prickly Lettuce	R	<1%

Continued

**TABLE 8 CONTINUED**

Scientific name	Common name	Abundance	Cover
<i>Lycopus europaeus</i>	Gipsywort	VLF	<1%
<i>Oenanthe crocata</i>	Hemlock Water Dropwort	O	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	VL	<1%
<i>Plantago maritima</i>	Sea Plantain	VLF	<1%
<i>Persicaria hydropiper</i>	Water-pepper	VLF	<1%
<i>Potentilla reptans</i>	Creeping Cinquefoil	VL	<1%
<i>Rumex acetosella</i>	Sheep's Sorrel	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	O	<1%
<i>Salicornia</i> agg.	Glasswort	VLF	<1%
<i>Senecio jacobaea</i>	Common Ragwort	VL	<1%
<i>Smyrniololus atratum</i>	Alexanders	VL	<1%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	R	<1%
<i>Spergularia marina</i>	Lesser Sea-spurrey	VLF	<1%
<i>Stachys palustris</i>	Marsh Woundwort	VLA	<1%
<i>Suaeda maritima</i>	Annual Sea-blite	VLF	<1%
<i>Taraxacum officinale</i>	Dandelion	VL	<1%
<i>Tripleurospermum maritimum</i>	Sea Mayweed	VLF	<1%
<i>Urtica dioica</i>	Common Nettle	LF/VLA	<1%
<i>Vicia cracca</i>	Tufted Vetch	VL	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = Constant species.

**TABLE 9 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE EASTERN AREA OF ASTMOOR SALTMARSH, ADJACENT TO RANDLE'S ISLAND TIP**

**Map:** South-east

**Grid square:** 545840

**Survey date:** 30/08/02

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Betula pendula</i>	Silver Birch	LF	<1%
<i>Crataegus monogyna</i>	Hawthorn	VL	<1%
<i>Fraxinus excelsior</i>	Ash	VL	<1%
<i>Rubus fruticosus</i>	Bramble	LA	2%
<i>Salix caprea</i>	Goat Willow	VL	<1%
<i>Sambucus nigra</i>	Elder	VL	<1%
<b>Monocotyledon species</b>			
<i>Agrostis capillaris</i>	Common Bent	LA	20%
<i>Agrostis stolonifera</i>	Creeping Bent	LA	1%
<i>Aira praecox</i>	Early Hair-grass	VLF	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	LA	10%
<i>Bromus hordeaceus</i>	Soft Brome	VLA	<1%
<i>Carex otrubae</i>	False Fox-sedge	VL	<1%
<i>Cynosurus cristatus</i>	Crested Dogstail	VLF	<1%
<i>Dactylis glomerata</i>	Cocksfoot	LF	1%
<i>Elytrigia atherica</i>	Sea Couch	LA/D*	20%
<i>Festuca ovina</i>	Sheep's Fescue	VLF	<1%
<i>Festuca rubra</i>	Creeping Fescue	LF	2%
<i>Glyceria maxima</i>	Reed Sweet-grass	VLA	<1%
<i>Holcus lanatus</i>	Yorkshire Fog	LA	20%
<i>Juncus inflexus</i>	Hard Rush	VL	<1%
<i>Lolium perenne</i>	Perennial Ryegrass	VL	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	VL	<1%
<i>Phragmites australis</i>	Common Reed	VLA	1%
<i>Poa annua</i>	Annual Meadow-grass	VLA	<1%
<i>Puccinellia maritima</i>	Common Saltmarsh-grass	LF	1%
<i>Scirpus maritimus</i>	Sea Club-rush	LA/LD	5%
<i>Vulpia bromoides</i>	Squirreltail Fescue	VLA	<1%
<b>Dicotyledon species</b>			
<i>Achillea millefolium</i>	Yarrow	VLF	<1%
<i>Anagallis arvensis</i>	Scarlet Pimpernel	VLF	<1%
<i>Arctium minus</i>	Lesser Burdock	R	<1%
<i>Artemisia vulgaris</i>	Mugwort	VLF	<1%
<i>Atriplex prostrata</i>	Spear-leaved Orache	LF	1%
<i>Bellis perennis</i>	Daisy	VL	<1%
<i>Calystegia sepium</i>	Hedge Bindweed	LF	1%
<i>Centaurea nigra</i>	Common Knapweed	LF	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LF	<1%
<i>Cochlearia anglica</i>	English Scurvy-grass	VL	<1%
<i>Convolvulus arvensis</i>	Field Bindweed	LF	<1%
<i>Crepis capillaris</i>	Smooth Hawk's-beard	VL	<1%
<i>Dipsacus fullonum</i>	Teasel	LF	<1%
<i>Epilobium palustre</i>	Marsh Willowherb	VL	<1%

**Continued**

TABLE 9 CONTINUED

Scientific name	Common name	Abundance	Cover
<i>Equisetum arvense</i>	Field Horsetail	VL	<1%
<i>Eupatorium cannabinium</i>	Hemp-agrimony	VL	<1%
<i>Galium aparine</i>	Cleavers	VLF	<1%
<i>Geranium dissectum</i>	Cut-leaved Crane's-bill	VLF	<1%
<i>Geranium molle</i>	Dove's-foot Crane's-bill	VLF	<1%
<i>Glaux maritima</i>	Sea Milkwort	VLF	<1%
<i>Heracleum sphondylium</i>	Hogweed	LF	<1%
<i>Hypericum perforatum</i>	Perforate St. John's Wort	LF	<1%
<i>Hypochoeris radicata</i>	Common Cat's Ear	VLF	<1%
<i>Impatiens glandulifera</i>	Himalayan Balsam	VLF	<1%
<i>Lathyrus pratensis</i>	Meadow Vetchling	VLF	<1%
<i>Lotus corniculatus</i>	Common Birdsfoot Trefoil	LA	3%
<i>Matricaria discoidea</i>	Pineappleweed	VL	<1%
<i>Mentha aquatica</i>	Water Mint	VLF	<1%
<i>Odontites vernus</i>	Red Bartsia	VLF	<1%
<i>Oenanthe crocata</i>	Hemlock Water Dropwort	VLF	<1%
<i>Persicaria aviculare</i>	Knotgrass	VL	<1%
<i>Pilosella officinarum</i>	Mouse-ear Hawkweed	VLA	<1%
<i>Plantago lanceolata</i>	Ribwort Plantain	LF	<1%
<i>Plantago major</i>	Greater Plantain	VLF	<1%
<i>Plantago maritima</i>	Sea Plantain	VLA	<1%
<i>Persicaria hydropiper</i>	Water-pepper	VLF	<1%
<i>Potentilla reptans</i>	Creeping Cinquefoil	LF	<1%
<i>Prunella vulgaris</i>	Self-heal	VL	<1%
<i>Ranunculus repens</i>	Creeping Buttercup	VLF	<1%
<i>Reseda luteola</i>	Weld	VL	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	O	<1%
<i>Senecio jacobaea</i>	Common Ragwort	LF	<1%
<i>Smyrnium olusatrum</i>	Alexanders	LF	1%
<i>Solanum dulcamara</i>	Bittersweet	LF	<1%
<i>Sonchus arvensis</i>	Perennial Sow-thistle	LF	<1%
<i>Sonchus oleraceus</i>	Smooth Sow-thistle	VLF	<1%
<i>Spergularia marina</i>	Lesser Sea-spurrey	VL	<1%
<i>Stachys palustris</i>	Marsh Woundwort	VLF	<1%
<i>Symphytum officinale</i>	Common Comfrey	VLF	<1%
<i>Taraxacum officinale</i>	Dandelion	O	<1%
<i>Tragopogon pratensis</i>	Goat's-beard	VL	<1%
<i>Trifolium dubium</i>	Lesser Trefoil	VLF	<1%
<i>Trifolium pratense</i>	Red Clover	VLF	<1%
<i>Trifolium repens</i>	White Clover	LF	<1%
<i>Tripleurospermum inodorum</i>	Scentless Mayweed	VLF	<1%
<i>Tripleurospermum maritimum</i>	Sea Mayweed	VL	<1%
<i>Tripolium maritima</i>	Sea Aster	VL	<1%
<i>Tussilago farfara</i>	Coltsfoot	VL	<1%
<i>Urtica dioica</i>	Common Nettle	LA/VLD	2%
<i>Vicia hirsuta</i>	Hairy Tare	VLF	<1%
<i>Vicia sativa</i>	Common Vetch	VL	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very \* = constant species..

**TABLE 10 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF THE WETLAND AREA (FORMER SECTION OF THE RUNCORN AND LATCHFORD CANAL) TO THE SOUTH OF ASTMOOR SALTMARSH**

Map: South-east  
Grid square = 535840

Survey date: 30/08/2002

Scientific name	Common name	Abundance	Cover
<b>Woody species</b>			
<i>Rubus fruticosus</i> agg.	Bramble	VLF	<1%
<i>Salix caprea</i>	Goat Willow	VL	<1%
<i>Sambucus nigra</i>	Elder	VL	<1%
<i>Viburnum opulus</i>	Guelder Rose	VL	<1%
<b>Monocotyledon species</b>			
<i>Agrostis capillaris</i>	Common Bent	VL	<1%
<i>Agrostis stolonifera</i>	Creeping Bent	LA	<1%
<i>Dactylis glomerata</i>	Cocksfoot	LF	<1%
<i>Deschampsia cespitosa</i>	Tufted Hair-grass	VLF	<1%
<i>Eleocharis palustris</i>	Common Spike-rush	VLF	<1%
<i>Elytrigia atherica</i>	Sea Couch	VLA	<1%
<i>Festuca rubra</i>	Creeping Fescue	VLF	<1%
<i>Iris pseudocorus</i>	Yellow Iris	VL	<1%
<i>Phalaris arundinacea</i>	Reed Canary-grass	VLF	<1%
<i>Phragmites australis</i>	Common Reed	LD	25%
<i>Schoenoplectus tabernaemontani</i>	Grey Club-rush	VLA	<1%
<i>Scirpus maritimus</i>	Sea Club-rush	LA	40%
<i>Typha latifolia</i>	Bulrush	LD	25%
<b>Dicotyledon species</b>			
<i>Atriplex prostrata</i>	Spear-leaved Orache	VL	<1%
<i>Callitriche stagnalis</i>	Water Starwort	LF	<1%
<i>Calystegia sepium</i>	Hedge Bindweed	VLA	<1%
<i>Chamerion angustifolium</i>	Rosebay Willowherb	LA	1%
<i>Cirsium arvense</i>	Creeping Thistle	VLF	<1%
<i>Convolvulus arvensis</i>	Field Bindweed	VLA	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	LA	1%
<i>Lycopus europaeus</i>	Gipsywort	VLF	<1%
<i>Lythrum salicaria</i>	Purple Loosestrife	VL	<1%
<i>Oenanthe crocata</i>	Hemlock Water Dropwort	VLF	<1%
<i>Persicaria hydropiper</i>	Water-pepper	VLA	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	LF	<1%
<i>Solanum dulcamara</i>	Bittersweet	LA	<1%
<i>Sonchus arvensis</i>	Perennial Sow Thistle	VL	<1%
<i>Stachys palustris</i>	Marsh Woundwort	LF	1%
<i>Taraxacum officinale</i>	Dandelion	VL	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very, \* = Constant species.

**TABLE 11 THE PLANT SPECIES COMPOSITION OF THE VEGETATION OF CUERDLEY MARSH, SOUTH OF THE LAGOONS AT FIDDLER'S FERRY POWER STATION**

Site map: North-east

Survey date: 05/06/02

Grid square: 555855,555850,555845

Total vegetation cover = 90%

Scientific name	Common name	Abundance	Cover
<b>Monocotyledon species</b>			
<i>Agrostis capillaris</i>	Common Bent-grass	LA	2%
<i>Agrostis stolonifera</i>	Creeping Bent	VLF	<1%
<i>Alopecurus geniculatus</i>	Marsh Foxtail	VLA	<1%
<i>Arrhenatherum elatius</i>	False Oat-grass	LA	5%
<i>Carex panacea</i>	Carnation Sedge	VLA	<1%
<i>Elytrigia repens</i>	Common Couch-grass	D/VA*	95%
<i>Festuca rubra</i>	Creeping Fescue	LA	5%
<i>Phragmites australis</i>	Common Reed	LA/VLD	2%
<i>Poa pratensis</i>	Smooth-stalked Meadow-grass	LA	<1%
<i>Scirpus maritimus</i>	Sea Club-rush	LD	2%
<b>Dicotyledon species</b>			
<i>Atriplex prostrata</i>	Spear-leaved Orache	LF	5%
<i>Calystegia sepium</i>	Hedge Bindweed	O	<1%
<i>Cirsium arvense</i>	Creeping Thistle	LF	2%
<i>Cirsium vulgare</i>	Spear Thistle	O	<1%
<i>Epilobium hirsutum</i>	Great Willowherb	VLA	<1%
<i>Equisetum arvense</i>	Field Horsetail	VLF	<1%
<i>Halimione portulacoides</i>	Sea Purslane	LF	2%
<i>Oenanthe crocata</i>	Hemlock Water Dropwort	VLF	<1%
<i>Polygonum maritimum</i>	Sea Knotgrass	VLA	<1%
<i>Potentilla anserina</i>	Silverweed	LF/VLA	<1%
<i>Rumex conglomeratus</i>	Clustered Dock	LF	<1%
<i>Rumex crispus</i>	Curled Dock	LF	2%
<i>Smyrniolus olusatrum</i>	Alexanders	VLA	<1%
<i>Taraxacum officinale</i>	Dandelion	O	<1%
<b>In gully</b>			
<i>Cochlearia anglica</i>	English Scurvy-grass	R	<1%
	Algal mat	VA*	10%
<b>SM13 community</b>			
<i>Aster tripolium</i>	Sea Aster	LA	1%
<i>Puccinellia maritima</i>	Common Saltmarsh-Grass	LA	5%
<i>Tripleurospermum maritimum</i>	Sea Mayweed	O	<1%
<i>Sonchus arvensis</i>	Perennial Sow-thistle	VLF	<1%
<b>Around saline pool</b>			
<i>Dactylorhiza praetermissa</i>	Southern Marsh Orchid	R	<1%
<i>Elytrigia atherica</i>	Sea Couch	VLA	<1%
<i>Galium aparine</i>	Cleavers	VLA	<1%

Continued

**TABLE 11 CONTINUED**

<b>Scientific name</b>	<b>Common name</b>	<b>Abundance</b>	<b>Cover</b>
<i>Plantago maritima</i>	Sea Plantain	R	<1%
<i>Rubus fruticosus agg.</i>	Bramble	VLA	<1%
<i>Salix caprea</i>	Goat Willow	VL	<1%
<i>Salix fragilis</i>	Crack Willow	VL	<1%
<i>Solanum dulcamara</i>	Bittersweet	VLA	<1%
<i>Urtica dioica</i>	Common Nettle	VLA	<1%

**Key to abbreviations:** D = Dominant, COD = Co-dominant, A = Abundant, F = Frequent, O = Occasional, L = Local/locally, R = Rare, V = Very