TABLES

Zone	*Transect Number*	*Boreholes*	*Rationale*
Zone A	Transect 44	331-341	Investigate deposits from Windmill Hill to floodplain
Zone B	Transect 1000	291-288, 251-253	Investigate alluvial sequences in Zone B, adjacent to Avebury henge
	Transect 30	242-246	Investigate alluvial sequences in Zone B, adjacent to Avebury henge
	Transect 1	101-117	Investigate colluvial sequences in Zone B
Zone C	Transect 50	380, 381, 383-386	Investigate colluvial sequences in Zone C, Waden Hill
	Transect 65	373-376	Investigate alluvial sequences in Zone C, adjacent to Silbury Hill
	Transect 47	368-372	Investigate alluvial sequences in Zone C, adjacent to Silbury Hill
	Transect 7	150-154	Investigate colluvial and alluvial sequences in valley to the east of Waden Hill
Zone D	Transect 54	405-409, 411-413	Investigate the colluvial and alluvial sequences in Zone D, adjacent to the Palisaded Enclosures
	Transect 59	438, 440-443	Investigate alluvial sequences in Zone D
	Transect 15	183, 182, PEC5a, 191, 180, 429	Investigate alluvial sequences in Zone D, downstream of the Palisaded Enclosures
Zone E	Transect 62	444-447	Investigate alluvial and colluvial sequences at Zone E, North Farm and adjacent floodplain, with TP1 and TP2 excavated on the transect
	Transect 63	472-474, 449, 448, 450, 454, 451, 453, 452	Investigate alluvial and colluvial sequences at Zone E, North Farm and adjacent floodplain

Table 1: Transects and boreholes used for the analysis of the alluvial zones A-E

Zone	*Test pit (TP) Excavation (Tr)* *Borehole (BH)*	*Sampled for*	*Overview*
A North of Avebury henge	TP3 (Winterborne North)	Soils (TS), Mollusca	Upper Kennet floodplain, west of Avebury: brown silty clay loam; buried soil/old land surface, 33-42cm, developed on chalky flint
A North of Avebury henge	TP4 (Winterborne North)	Soils (TS)	Upper Kennet floodplain, west of Avebury: orangey brown silty clay loam; buried soil/old land surface, 48-58cm, developed on chalky silt
B North of Avebury henge	TP1 (Winterborne South)	Soils (TS)	Kennet floodplain, southwest of Avebury: orangey brown silty clay loam; buried soil beneath alluvium, 143-153cm, developed on weathered chalk
B Avebury Henge	Butler's Field TP3		Kennet floodplain, west of Avebury: 74cm of silty clay alluvium over a buried soil
B Avebury Henge	Butler's Field TP8		Kennet floodplain, west of Avebury: 95cm of silty clay alluvium over a buried soil
B Avebury Henge	Butler's Field: Tr 1		Kennet floodplain, west of Avebury: 62cm of silty clay alluvium over a rubble bank sealing a buried soil
B Avebury Henge	Butler's Field: Tr 2	Sediments OSL	Kennet floodplain, west of Avebury henge. 116cm of alluvium over a buried soil
B Avebury Henge	Butler's Field: Tr 3	Soils (TS)	Kennet floodplain, west of Avebury: 106cm of silty clay alluvium over a buried soil
B Avebury Henge	Butler's Field: Tr 5	Sediments, Soils (TS) Mollusca, OSL	Kennet floodplain, southwest of Avebury: 104cm of silty clay alluvium and 133cm of calcitic silt palaeo-channel deposits
B Avebury Henge	BH251:	Soils (TS)	Kennet floodplain, southwest of Avebury: 104cm of silty clay alluvium and 133cm of calcitic silt palaeo-channel deposits
C Waden and Silbury Hill	BH375: Between A361 & Silbury Hill		Kennet floodplain, southwest of Avebury: 84cm of silty clay alluvium and 29cm of calcitic silt palaeo-channel deposits
C Waden and Silbury Hill	BH223: South of Silbury Hill	Mollusca	Kennet floodplain, south of Silbury Hill and north of Swallowhead Springs: 60cm of silty clay alluvium and 225+cm of calcitic silt palaeo-channel deposits
D Timber Palisades	PEC5 East Kennett floodplain	Sediments	Alluvial floodplain sequence (104cm) over weakly preserved palaeosol
E North Farm	North Farm TP1	Soils, Sediments, Mollusca, OSL	Kennet floodplain in Narrow Meadow, North Farm, West Overton: *c*. 50cm of alluvium and 30cm of hillwash over a buried soil
E North Farm	North Farm TP2	Soils, Sediments, Mollusca, OSL	Kennet floodplain in Narrow Meadow, North Farm, West Overton: *c*. 80cm of alluvium over 250cm of palaeo-channel fill deposits

Table 2: Valley zones, with the trench, test pit and borehole numbers selected for further analyses: soil thin section (TS), sediments, mollusca and OSL) and field descriptions from the upper Kennet floodplain area in the LwM project

Trench	*Field Code*	*Lab Code*	*Total D_r (Gy.ka^{-1})*	*D_e (Gy)*	*Age (ka)*	*Date*
Butler's Field Tr 2	ABRY08	GL18004	1.01 ± 0.07	2.1 ± 0.1	*2.0 ± 0.2 (0.2)*	*210 BC – AD 150*
	ABRY07	GL18003	1.60 ± 0.10	4.0 ± 0.2	2.5 ± 0.2 (0.2)	690 BC – 310 BC
Butler's Field Tr 5	ABRY06	GL18075	0.81 ± 0.06	2.1 ± 0.1	2.6 ± 0.2 (0.2)	820 BC – 410 BC
	ABRY05	GL18002	0.72 ± 0.05	4.3 ± 0.2	6.0 ± 0.5 (0.4)	4420 BC – 3460 BC
	ABRY04	GL18074	0.85 ± 0.06	5.1 ± 0.2	6.0 ± 0.5 (0.4)	4550 BC – 3550 BC
	ABRY02	GL18073	0.75 ± 0.05	7.0 ± 0.2	9.4 ± 0.7 (0.6)	8080 BC – 6610 BC
	ABRY01	GL18001	0.59 ± 0.04	8.8 ± 0.3	15.0 ± 1.3 (1.1)	14,270 BC – 11,730 BC
North Farm Test Pit 2	ABRY18	GL19052	1.79 ± 0.10	1.2 ± 0.0	0.66 ± 0.05 (0.04)	AD 1320 – AD 1410
	ABRY16	GL19051	1.09 ± 0.07	1.6 ± 0.1	1.5 ± 0.1 (0.1)	AD 400 – AD 620
	ABRY15	GL19050	1.07 ± 0.07	2.1 ± 0.1	2.0 ± 0.1 (0.1)	130 BC – AD 170
	ABRY10	GL19049	0.66 ± 0.05	3.7 ± 0.1	5.7 ± 0.5 (0.4)	4090 BC – 3180 BC
North Farm Test Pit 1	ABRY22	GL19055	2.38 ± 0.13	1.6 ± 0.1	0.68 ± 0.04 (0.04)	AD 1300 – AD 1390
	ABRY20	GL19054	2.36 ± 0.12	4.9 ± 0.2	2.1 ± 0.1 (0.1)	200 BC – AD 60
	ABRY19	GL19053	2.24 ± 0.13	5.4 ± 0.2	2.4 ± 0.2 (0.1)	550 BC – 220 BC
	ABRY13	GL21113	0.92 ± 0.06	2.9 ± 0.1	*3.1 ± 0.2 (0.2)*	*1330 BC – 870 BC*

Table 3: OSL dates for Trenches 2 and 5 in Butler's Field and North Farm Test Pits 1 and 2. Dose Rate (D_r), Equivalent Dose (D_e) and Age data of OSL samples. D_r values are based on Gamma Spectrometry (*in situ* NaI and *ex situ* Ge), dose rate conversion factors (Adamiec & Aitken 1998), grain size (Mejdahl 1979), burial moisture content (Zimmerman 1971; assumed synonymous with present moisture content), depth, site surface altitude and a geomagnetic latitude of 51°N (Prescott & Hutton 1991). D_e values are based on conventional multi-grain, single-aliquot regenerative-dose (SAR) OSL measurements of fine silt quartz (Murray & Wintle 2000; 2003; Berger *et al*. 1980). Age estimates are based on the Central Age Model (Galbraith *et al*. 1999) and expressed relative to year of sampling (2018). Uncertainties in age are quoted at 1σ confidence, are based on analytical errors and reflect

combined systematic and experimental variability and (in parenthesis) experimental variability alone. Note: italicised age estimates are accompanied by significant U disequilibrium (Olley *et al*. 1996), so are tentative only

Sample area	*Micromorphological features*	*Interpretation*	*Wider implications & relative dating*
Avebury henge (east of Zones A & B)	a *c*. 20-30 cm thick horizon of pale brown to yellowish/reddish brown silt loam beneath the turf, over a strong reddish brown silty clay loam with few fine chalk and flint gravel pebbles, all developed on weathered chalk	argillic buried soils with a loessic component on clay-with-flints geology to the east and southeast of the henge; rendzinas to the north, south and west	long-lived, stable, well vegetated (and wooded) conditions in places; but mainly grassland elsewhere; argillic brown earths present on the eastern side of the henge
Winterborne Northwest (Zone A)	(n/a)	this Oslip stream western fork of the upper Kennet is more of a low-lying spring-fed zone than a floodplain valley *per se* with often waterlogged rendzina pasture soils	natural spring-fed wet zone with no alluvial accumulation throughout
Winterborne North (Spring Field) & South in Kennet floodplain (Zone B)	brown, very fine sandy/silty clay loam exhibiting an irregular small blocky ped structure with few to common chalk and flint gravel pebbles, becoming more calcitic with depth, over a well structured golden brown, fine sandy/silty clay loam buried soil with illuvial well oriented dusty and occasional pure clays	*c*. 35-50 cm of silty clay alluvium, increasingly calcitic, over a thin, probably truncated, moderately well developed argillic (clay-enriched) brown earth soils on the western margin of the floodplain, grading to rendzinas beyond the western floodplain edge	reasonable floodplain margin stability and absence of significant alluvial aggradation probably until Roman or later times
Butler's Field in Kennet	up to a *c*. 2.5 m sequence depth of well structured	as above for the floodplain margin soil, but subject to	most of floodplain area affected by water ponding

floodplain (Zone B)	dark greyish brown silty clay upper alluvium ('Arion clay') over a basal alluvium of pale grey/yellowish brown very fine sandy silt with fine shell fragments over either a buried soil of poorly developed greyish brown silt loam with few fine charcoal, chalk and flint fragments, or over grey calcitic silts infilling a palaeo-channel	both calcitic silt (from *c*. 4400 BC) and silty clay (from after *c*. 690-310 BC) alluvial aggradation accumulating in interlinked small basins; as the slope rises westwards and eastwards, rendzinas prevail	from Neolithic times; from Iron Age and Roman times subject to silty clay alluvial aggradation; from late 16th century most of the area was made into fishing ponds
Silbury Hill, Swallowhead Springs & Kennet floodplain to West Kennett Farm (Zone D)	thin dark brown silty clay alluvium over either a thin, poorly developed sandy loam buried soil or shallow calcitic silt fills of a palaeo-channel	sharp-angled river channel, with much avulsion only north of Swallowhead Springs, subject to both calcitic silt and silty clay alluvial aggradation; thin brown earth soils on the southeastern flank of Silbury Hill and probably also where the West Kennet palisaded enclosures were built, which had already largely degraded to rendzinas before the later 4th millennium BC when the palisaded enclosures were probably built	essentially one main channel occupying the whole width of the floodplain, with aggradation from later prehistoric and Roman/post-Roman times; defined by terrace on southern flank and rising ground to north; abrupt transition to rendzina soils to south, but more mixed rendzina to brown earths on the north and south banks beyond on the floodplain margins and foot of downland slopes
Floodplain from West Kennett Farm east to West Overton (Zones D & E)	well structured dark brown silty clay alluvium over a greyish brown calcitc silt with few very fine chalk fragments over brown sandy/silt loam buried soil	loessic-like brown earth development on the north bank, probably disturbed by human activities; buried at *c*. 1400 BC by rubbly calcitic hillwash from the downland slopes immediately to the east, and then silty clay loam	whole floodplain subject to both calcitic silt and silty clay alluvial aggradation through later prehistoric and historic times, respectively, with occasional small lobate zones of chalky hillwash

		eroded soil aggrading as alluvium from Roman times onwards	accumulation on the northern margins of the floodplain
Floodplain in the Fyfield to Clatford area (east of Zone E)	shallowing dark brown silty clay alluvium over thin, brown sandy/silt loam with chalk rubble soils	west to Fyfield area as above, but by Clatford floodplain area almost no alluvial aggradation is evident	changes to wide, shallow, active floodplain with minimal alluvial aggradation, associated with rendzina soils on its northern slopes

Table 4: Summary descriptions, interpretations and wider implications of the soil micromorphological data from the upper Kennet valley

Period of alluviation	*OSL dates*	*Alluvial sediment*	*Sequence*	*Alluvial zone*	*Overview interpretation*
Late Pleistocene	14,270-11,730 BC	(501)	Trench 5	Zone B	**Natural fluvial deposition** in Pleistocene topographic low point depressions within channel. No definable anthropogenic impact within the valley.
		(107	North Farm TP2	Zone E	
Early Holocene (pre-Neolithic)	8080-6610 BC	(502)	Trench 5	Zone B	**Natural fluvial deposition** in Pleistocene topographic low point depressions within channel. No definable anthropogenic impact within the valley.
		(106)	North Farm TP2	Zone E	
Neolithic – Middle Bronze Age	4550-3550 BC & 4420-3460 BC	(503)	Trench 5	Zone B	**Transitional.** Within channel deposition predominated with minor anthropogenic minerogenic alluviation signal, which slowly increased. Slight and small scale landscape impacts detectable.
	4090-3180 BC	(105)	North Farm TP2	Zone E	
Late Bronze Age, Iron Age & Early Roman	820-410 BC	(504) (lower)	Trench 5	Zone B	**Anthropogenically driven alluviation** dominant, defining increased and widespread land surface disturbance on the valley sides. Aggradation of the valley floor with minerogenic silt rich alluvium began to constrain the channel system. Alluvium buried the previous extant land-surfaces (palaeosols) on the valley floor.
	690-310 BC	(639)	Trench 2	Zone B	
		(PE6)	PEC5a	Zone D	
		(PE5)	PEC5a	Zone D	
	1330-870 BC (with caveat) to 130 BC – AD 170	(104)	North Farm TP2	Zone E	
	550 BC – 220 BC to 200 BC – AD 60	(112)	North Farm TP1	Zone E	
Roman – Medieval		(504) Upper	Trench 5	Zone B	**Anthropogenically driven alluviation** continued. Decrease in overall particle size defining a fluvial regime of decreasing energy, with increased infilling of the floodplain with minerogenic silty clay alluvium. Extensive evidence for medieval activity on and adjacent to the floodplain causing anthropogenic additions to the medieval soil complex.
	210 BC – AD 150 (with caveat)	(638)	Trench 2	Zone B	
		(311)	Trench 2	Zone B	
		(PE4)	PEC5a	Zone D	
		(PE3)	PEC5a	Zone D	
	AD 400-620	(103)	North Farm TP2	Zone E	
	after 200 BC – AD 60 &	(111)	North Farm TP1	Zone E	

	before AD 1300-1390				
Late Medieval - Post Medieval		(505)	Trench 5	Zone B	**Anthropogenically driven alluviation** continued. Continued decrease in overall particle size, defining a reduction in fluvial energy. Valley floor increasingly infilled with anthropogenic derived minerogenic humic silty clay alluvium, constraining the river to a single thread, relatively deep and narrow channel. **Anthropogenic modification of river channel and floodplain** (eg, fishponds)
		(641)	Trench 2	Zone B	
		(PE2)	PEC5a	Zone D	
	AD 1320-1410	(102)	North Farm TP2	Zone E	
	AD 1300-1390	(110)	North Farm TP1	Zone E	

Table 5: A summary chronostratigraphic model for the Upper Kennet Valley