Table B.1 Geological maps for the SFRA study area

Area	BGS Sheet No(s)	BGS Sheet Name	Comments
Salisbury	298	Salisbury	West of Shaftsbury covered by Sheet 297 Wincanton, East of Winterslow by Sheet 299 Winchester
North Dorset	313	Shaftsbury	North of Shaftsbury covered by Sheet 297, South of Winterbourne Stickland by Sheet 328 Dorchester
East Dorset	329 314 298	Bournemouth Ringwood Salisbury	West of Sturminster Marshall covered by Sheet No. 328.
Bournemouth	329	Bournemouth	
Christchurch	329	Bournemouth	

Table B.2: Geological strata (simplified) within the SFRA Study Area

Geology			**Geological and Hydrogeological Properties**[1]	**Aquifer Class** *(Infiltration Drainage Potential)*[2]	**Distribution**[3]	**Groundwater Flooding Potential**[4]
Age	Group/ Formation	Unit				
Quaternary (Pleistocene and Recent)		Alluvium	Primarily silt and clay, occasional sand and gravel. Low intergranular permeability.	*(Poor).*	Widespread in river valleys	Possible -
		River Terrace Gravels	Coarse sands and gravels in river valleys – maybe several terraces	*(Good)*	Widespread in river valleys	Possible – though likely related to fluvial/tidal events
		Plateau/ Head Gravels	Coarse sands and gravels	*(Good)*	Capping of some low lying hills	Possible – local only

Geology			**Geological and Hydrogeological Properties**[1]	**Aquifer Class** *(Infiltration Drainage Potential)*[2]	**Distribution**[3]	**Groundwater Flooding Potential**[4]
Age	Group/ Formation	Unit				
		Clay with Flints	Solufluction deposits, flint rich clays. Impermeable.	*(Poor)*	As above	Unlikely
Eocene	Solent Group	Headon Formation	Predominantly Clays – though classified as minor aquifer in some locations	**Minor** *(Poor)*	Very minor	Unlikely
Eocene	Barton Group		Sands, silts and clays	**Minor/ Non Aquifer** *(moderate /poor)*	Extensive in southern areas	Possible but very localised
	Bracklesham Group		Sands Silts and Clays	**Minor** (moderate /poor)	Extensive in southern areas	Possible but very localised
	Thames Group	London Clay Formation	Stiff clays	**Non Aquifer** *(poor)*	Moderately narrow band between Tertiary strata and Chalk	Unlikely

Geology			**Geological and Hydrogeological Properties**[1]	**Aquifer Class** *(Infiltration Drainage Potential)*[2]	**Distribution**[3]	**Groundwater Flooding Potential**[4]
Age	Group/ Formation	Unit				
Paleocene	Lambeth Group	Reading Formation	Clay silts and sands	**Minor/ non aquifer** *(poor)*	As above – thin band only	Unlikely
Upper Cretaceous	Chalk	Un-differentiated	White, fine micritic limestone with primary and secondary porosity and permeability (fissures etc). Generally highly permeable.	**Major** *(Good)*	Extensive in central and northern areas	Possible - most recorded groundwater flooding events in Chalk
Lower Cretaceous	Upper Greensand		Sand and sandstone, fine-grained, silt, glauconitic, shelly. Moderately permeable.	**Major** *(Good)*	Thin bands adjacent chalk – to north west	Possible – in association with overlying Chalk
	Gault		Clays and sandy clays. Impermeable.	**Non - Aquifer** *(Poor)*		Unlikely
	Lower Greensand		Mainly sands and sandstones with some silts and clays. Permeable.	**Major** *(Good)*		Possible? But localised

Geology			**Geological and Hydrogeological Properties**[1]	**Aquifer Class** *(Infiltration Drainage Potential)*[2]	**Distribution**[3]	**Groundwater Flooding Potential**[4]
Age	Group/ Formation	Unit				
Jurassic	Purbeck Limestone Group		Limestones with marls clays and sandy clays. Fracture and intergranular flow. Moderately permeable.	**Minor** *(Moderate)*	To west and north west	Unlikely
	Portland Group		Limestones, sandstone and calcareous sandstone. Permeable (inergranular and fracture).	**Major/Minor** *(Good/ Moderate).*		Unlikely
	Kimmeridge Clay Formation		Calcareous mudstone, shelly mudstone and silty mudstone. Impermeable.	**Non Aquifer** *(Poor)*		Unlikely
Jurassic	Corallian Group		Oolitic limestone, sands and sandstones. Intergranular/ fissure flow	Major/Minor *(Moderate)*	Extreme north west only	Possible
	Oxford Clay		Calcareous mudstones with silty mudstones and siltstones. Impermeable.	**Non Aquifer** *(Poor)*	Extreme north west only	Unlikely

Notes to Table B.2:

1. Generalised descriptions only. Major impermeable units (e.g. Kimmeridge, Gault clay) may have very localised more permeable units but these are unlikely to be significant in extent. Groundwater flooding may occur in small bodies outside main aquifer units
2. Aquifer classification based on Aquifer Vulnerability Mapping- excludes soil class. Drift deposits classification not given as these may be classified according to underlying solid strata – e.g sands and gravels overlying Chalk would be classed as "major aquifer." Aquifer classifications for a single formation may vary with location. The infiltration drainage potential is based primarily on indicative geological/lithological/hydrogeological properties only – soils, groundwater levels, unit thickness and topographic setting will further constrain potential.
3. Refer geological map for distribution, some deposits described here may occur outside the study areas.
4 Groundwater flooding potential – indicative only (possible/unlikely), refer "FRIS" Mapping for occurrence of groundwater flooding to date. Records of groundwater flooding currently insufficient to map "groundwater risk" or groundwater flooding susceptibility.