SEA OBJECTIVES

Option Type: & Sub-type	Element Name	HRA	WFD	To conserve and enhance biodiversity	To protect, conserve and enhance natural capital and ecosystem services	To strengthen connections between people and nature & realise value of biodiversity/ecosystem services.	To avoid introducing or spreading INNS	To protect and enhance health and well-being	To protect and enhance the water environment for other users including recreation, tourism and navigation, as well as terrestrial recreational resources	To promote sustainable socio-economic development through provision of access to a resilient, high quality, sustainable and affordable supply of water	To reduce, and make more efficient, the domestic, industrial and commercial consumption of resources, minimise the generation of waste, encourage its re-use	To promote the sustainable management of natural resources including efficient water resource management and maintain water supply for homes and industry	To avoid adverse impact on surface and groundwater levels and flows, including when this impacts on habitats and/or navigation.	To protect and enhance surface and groundwater quality and protect and enhance estuarine waterbodies.	To ensure appropriate and sustainable management of abstractions to maintain water supplies whilst protecting ecosystem functions that rely on water resources,	To promote measures to enable and sustain long term improvement in water efficiency.	To reduce or manage flood risk.	To protect and enhance geology, geomorphology, and the quality and quantity of soils.	To protect and enhance the ecosystem services functions of land, soils and geology, including carbon sequestration, flood attenuation, pollutant filtration and nutrient	To promote a catchment-wide approach to catchment land management	To reduce air pollutant emissions.	To reduce greenhouse gas emissions.	To adapt and improve resilience to the threats of climate change.	To conserve and enhance the historic environment, heritage assets and their settings, and protect archaeologically important sites.	To protect, enhance the quality of and improve access to designated and undesignated landscapes, townscapes and the countryside.	**Adverse Effects Metric Grade**
				Adverse Effects Assessment																						
				1.1	1.2	1.3	1.4	2.1	2.2	2.3	3.1	3.2	4.1	4.2	4.3	4.4	4.5	5.1	5.2	5.3	6.1	6.2	6.3	7.1	8.1	
Network: TWRM	TWRM extension - Hampton to Battersea link																									**-9**
Treatment: London	Coppermills WTW extension 100 MLD																									**-7**
Treatment: London	Coppermills WTW extension 150 MLD																									**-7**
Treatment: London	Kempton WTW new 300 MLD																									**-7**
Treatment: London	Kempton WTW new 150 MLD																									**-7**
Treatment: London	Kempton WTW new 100 MLD																									**-7**
Network: TWRM	Coppermills New Header tank																									**-7**
Network: TWRM	New Shaft at Kempton																									**-7**
Resource: Reservoir	Abingdon 150Mm3																									**-6**
Resource: Reservoir	Abingdon 125Mm3																									**-6**
Resource: Reservoir	Abingdon 100Mm3																									**-6**
Resource: Reservoir	Abingdon 75Mm3																									**-6**
Resource: Reservoir	Abingdon 30+100Mm3 Phase 1																									**-6**
Resource: Reservoir	Abingdon 80+42Mm3 Phase 1																									**-6**
Resource: Reservoir	Abingdon 30+100Mm3 Phase 2																									**-6**
Resource: Reservoir	Abingdon 80+42Mm3 Phase 2																									**-6**
Raw Water Transfer	Raw Water Transfer Deerhurst to Culham 500 Ml/d																									**-6**
Raw Water Transfer	Raw Water Transfer Deerhurst to Culham 400 Ml/d																									**-6**

Raw Water Transfer	Raw Water Transfer Deerhurst to Culham 300 Ml/d																									-6
Resource: Desalination	Desalination South Crossness RO Treatment Plant 100 MLD																									-5
Resource: Desalination:	Desalination North Beckton RO Treatment Plant																									-5
Network: TWRM	TWRM extension - Coppermills to Honor Oak																									-5
Conveyance: Raw Water System	TLT extension from Lockwood to KGV - 800Ml/d																									-5
Conveyance: Reuse	Reuse Beckton to Lockwood 300 MLD																									-5
Resource: River Abstraction	Direct River Abstraction - Teddington Weir (Mogden Effluent Transfer) - 300 MLD																									-4
Resource: Reuse	Reuse Beckton 100 MLD																									-4
Resource: Reuse	Reuse Beckton 150 MLD																									-4
Demand Management	Mains Replacement 90%+ of DMAs																									-4
Resource: Inter-Zonal Transfers	Kennet Valley to SWOX 15.5 MLD																									-4
Resource: Inter-Zonal Transfers	Kennet Valley to SWOX 11 MLD																									-4
Network: Desalination:	Desalination North Beckton to Coppermills 150 MLD.																									-4
Network: Desalination	Desalination South Crossness to Beckton 300 MLD																									-4
Conveyance: Raw Water System	Queen Mary Res to Kempton WTW - 800Ml/d																									-4
Conveyance: River Abstraction	Direct River Abstraction Teddington to Thames Lee Valley Shaft 300 MLD																									-4
Conveyance: River Abstraction	Mogden to Teddington 300 MLD																									-4
Resource: Inter-Zonal Transfers	Henley to SWOX 2.5 MLD																									-4
Conveyance: Raw Water System	KGV Res intake capacity increase																									-3
Treatment: SWOX	Abingdon WTW new 24 MLD (SWOX)																									-3
Treatment: SWOX	Radcot WTW new 24Mld (SWOX)																									-3
Resource: Inter-Company Transfers	SEW to GUI 10 MLD (Hogsback-Mount)																									-3
Resource: Groundwater	Groundwater Southfleet/Greenhithe (new WTW) - 8 MLD																									-3
Resource: Groundwater	Groundwater Mortimer disused source (recommission) - 4.5 MLD																									-3

Resource: Aquifer Recharge	AR Streatham (SLARS2) - 4 MLD																									-3
Resource: Aquifer Recharge	ASR South East London (Addington) - 1 MLD																									-3
Resource: Aquifer Recharge	AR Merton (SLARS3) - 5 MLD																									-3
Resource: Aquifer Recharge	ASR Thames Valley/Thames Central - 1 MLD																									-3
Resource: Groundwater	Groundwater - Moulsford 1 - 3.5 MLD																									-3
Resource: Groundwater	Groundwater Addington - 1 MLD																									-3
Resource: Groundwater	Groundwater Datchet 5.7 MLD																									-3
Resource: Groundwater	Groundwater London confined Chalk (north) - 2 MLD																									-3
Conveyance: Raw Water System	KGV to BPT south of William Girling - 300Ml/d																									-3
Conveyance: Raw Water System	Littleton Intake Capacity increase transfers to Queen Mary																									-3
Conveyance: Raw Water System	Datchet intake capacity increase																									-3
Resource: Inter-Company Transfers	WESSEX to SWOX 2.9 MLD (Flaxlands)																									-3
Conveyance: Reuse	Reuse Deephams to new TLT extension																									-3
Conveyance: Reuse	Reuse Deephams to KGV Intake 60MLD																									-3
Demand Management	Metering Houses, Bulks+Flats AMR technology																									-2
Demand Management	Metering Houses and Bulks AMR technology																									-2
Demand Management	Mains Replacement 75%+ of DMAs																									-2
Demand Management	Metering Houses Only AMR Technology																									-2
Resource: Raw water transfer support	Raw Water Transfer: Upper Severn - Vyrnwy Reservoir 180 Ml/d (London only)																									-2
Demand Management	Mains Replacement 50%+ of DMAs																									-2
Demand Management	Mains Replacement 25%+ of DMAs																									-2
Resource: Removal of Constraints	Eton removal of constraints to DO - 1.3 MLD																									-2

Resource: Removal of Constraints	RC Dapdune removal of constraints to DO - 3.2 MLD																									-2
Resource: Groundwater	Groundwater Arla Foods Licence Trading/Transfer - 2 MLD																									-2
Resource: Removal of Constraints	Ladymead WTW removal of constraints to DO - 7.8 MLD																									-2
Resource: Groundwater	Merton Recommissionng																									-2
Resource: Removal of Constraints	RC Ashton Keynes borehole pumps - 2.5 MLD																									-2
Conveyance: Raw Water System	TLT capacity enhancement – up to 450Ml/d																									-2
Resource: Raw water transfer support	Raw Water Transfer Mythe 15 Ml/d (London only)																									-2
Demand Management	Metering Houses Bulks Individual flats Dumb & AMR																									-2
Demand Management	Metering Blocks of Flats Only AMR technology																									-2
Resource: Removal of Constraints	RC East Woodhay borehole pumps - 2.1 MLD																									-2
Conveyance: Raw Water System	Surbiton intake capacity increase																									-2
Network: TWRM	Barrow Hill Pump Replacement																									-2
Network: TWRM	Riverhead Pump Replacement																									-2
Demand Management	Metering+WEff Houses, Bulks +Flats AMI technology																									-1
Demand Management	Metering+WEff Houses & Bulks AMI technology																									-1
Demand Management	Metering Houses, Bulks +Flats AMI technology																									-1
Demand Management	Metering Houses and Bulks AMI technology																									-1
Demand Management	Metering+WEff Houses only AMI technology																									-1
Demand Management	Metering Houses Only AMI Technology																									-1
Demand Management	Active Leakage Control																									-1
Demand Management	Pressure Management																									-1
Demand Management	Water Efficiency Smarter Business Visits																									-1
Resource: Groundwater	Groundwater Dapdune Licence Disaggregation - 2.2 MLD																									-1

Resource: Removal of Constraints	RC Datchet main replacement - 9.3 MLD																										-1
Demand Management	Metering Blocks of Flats Only AMI technology																										-1
Demand Management	Water Efficiency Home Visits (unmeasured HHs)																										-1
Demand Management	Water Efficiency Home Visits (Measured HHs)																										-1
Demand Management	Water Efficiency Wastage Fixes (Leaks)																										-1
Demand Management	Water Efficiency Housing Association Fixes																										-1
Resource - Catchment Management	Lower Thames Catchment Scheme																										0
Resource - Catchment Management	Lower Lee Catchment Scheme																										0
Resource - Catchment Management	Ashdown Park Catchment Scheme																										0
Resource - Catchment Management	Marlborough Catchment Scheme																										0
Resource - Catchment Management	North Orpington Catchment Scheme																										0
Resource - Catchment Management	Playhatch Catchment Scheme																										0
Resource - Catchment Management	Sheeplands Catchment Scheme																										0
Resource - Catchment Management	Southfleet Catchment Scheme																										0
Resource - Catchment Management	Green Street Green Catchment Scheme																										0
Demand Management	Water Efficiency Marketing Campaigns																										0
Demand Management	Innovation tariffs																										0
Demand Management	Incentive tariffs																										0